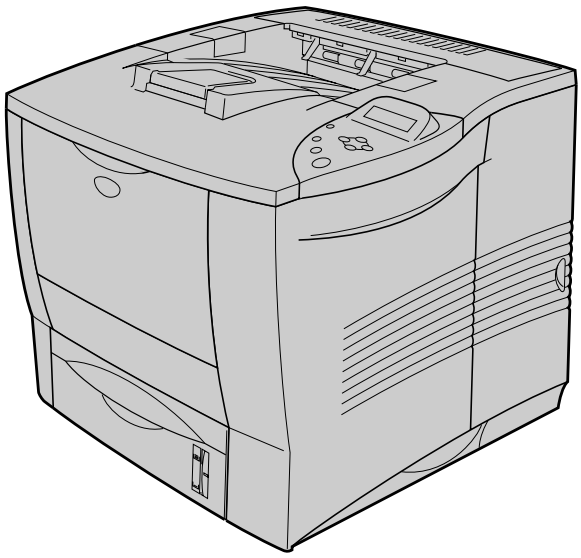
brother

Brother Laser Printer

HL-2460

User's Guide



Before you can use the printer, you must set up the hardware and install the driver. Please set up the printer while referring to the Quick Setup Guide. You can view it on both the printed poster and the CD-ROM.

Please read this manual thoroughly before using the printer and keep the CD-ROM in a convenient place for quick and easy reference at all times.

Please visit our user support web site, Brother Solutions Center at http://solutions.brother.com. You can see latest drivers and information.

brother

Laser Printer

HL-2460

USER'S GUIDE

Definitions of Warnings, Cautions, and Notes

The following conventions are used in this User's Guide:



Warning

Indicates warnings that must be observed to prevent possible personal injury.



Caution

Indicates cautions that must be observed to use the printer properly or prevent damage to the printer.

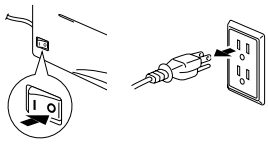
Note

Indicates notes and useful tips to remember when using the printer.

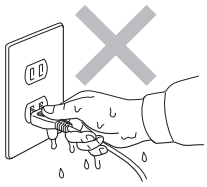
To Use the Printer Safely

Warning

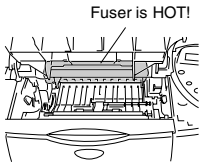
- There are high voltage electrodes inside the printer. Before replacing internal parts, cleaning the printer or clearing a paper jam, make sure you have turned off the power switch and unplugged the power cord from the power outlet.



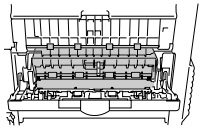
- Do not handle the plug with wet hands. Doing this might cause an electrical shock.



High Temperature
After you have just used the printer, some internal parts of the printer are extremely hot. When you open the front cover or rear cover of the printer, never touch the shaded parts shown in the following illustration.

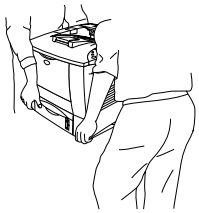


Inside the printer

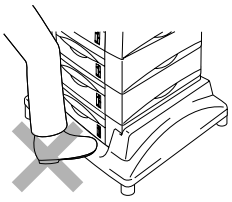


Open the face up output tray

- To prevent injuries, this printer should be lifted by at least two people.



- Do not stand the printer and optional.



- Be careful not to trip on the legs of the optional Stabilizer unit.

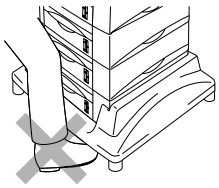


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Federal Communications Commission(FCC) Declaration of Conformity (For USA Only)

Responsible Party : Brother International Corporation
100 Somerset Corporate Boulevard
Bridgewater, NJ 08807-0911, USA
TEL : (908) 704-1700

declares, that the products

Product Name:	Brother Laser Printer HL-2460
Model Number:	HL-24
Product Options:	Lower Tray Unit LT-4000, Duplex Unit DX-4000,Network Card NC-4100h, Mailbox Unit MX-4100, MX-4300

complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Important
A shielded interface cable should be used in order to ensure compliance with the limits for a Class B digital device.
Changes or modifications not expressly approved by Brother Industries, Ltd. could void the user's authority to operate the equipment.

Industry Canada Compliance Statement (For Canada Only)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Declaration of Conformity (For Europe)

We, Brother Industries, Ltd.,
15-1, Naeshiro-cho, Mizuho-ku, Nagoya
467-8561, Japan

declare that this product is in conformity with the following normative documents:

Safety:	EN 60950,	EN 60825
EMC:	EN 55022 Class B,	EN 55024
	EN 61000-3-2	EN 61000-3-3

following the provisions of the Low Voltage Directive 73/23/EEC and the Electromagnetic Compatibility Directive 89/336/EEC (as amended by 91/263/EEC and 92/31/EEC).

Issued by:

Brother Industries, Ltd.,
Information & Document Company

Radio Interference(220-240 V Model Only)

This printer complies with EN55022(CISPR Publication 22)/Class B.

Before this product is used, ensure that you use a double-shielded interface cable with twisted-pair conductors and that it is marked “IEEE1284 compliant”. The cable must not exceed 1.8 metres in length.

International ENERGY STAR® Compliance Statement

ENERGY STAR is a U.S registered mark.

The purpose of the International ENERGY STAR ® Program is to promote the development and popularization of energy-efficient office equipments.

As an ENERGY STAR ® Partner, Brother Industries, Ltd. has determined that this product meets the ENERGY STAR ® guidelines for energy efficiency.

Laser Notices

Laser Safety (110-120 V Model Only)

This printer is certified as a Class I laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. This means that the printer does not produce hazardous laser radiation.

Since radiation emitted inside the printer is completely confined within protective housings and external covers, the laser beam cannot escape from the machine during any phase of user operation.

FDA Regulations (110-120 V Model Only)

U.S. Food and Drug Administration (FDA) has implemented regulations for laser products manufactured on and after August 2, 1976. Compliance is mandatory for products marketed in the United States. One of the following labels on the back of the printer indicates compliance with the FDA regulations and must be attached to laser products marketed in the United States.

MANUFACTURED:
Brother Industries, Ltd.,
15-1 Naeshiro-cho Mizuho-ku Nagoya, 467-8561 Japan
This product complies with FDA radiation performance standards, 21 CFR subchapter J.

MANUFACTURED:
Brother Corporation (Asia) Ltd. Brother Buji Nan Ling Factory
Gold Garden Ind., Nan Ling Village, Buji, Rong Gang, Shenzhen, CHINA
This product complies with FDA radiation performance standards, 21 CFR Subchapter J

☛ **Caution:** Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

IEC 60825 Specification (220-240 V Model Only)

This printer is a Class 1 laser product as defined in IEC 60825 specifications. The label shown below is attached in countries where required.



This printer has a Class 3B Laser Diode which emits invisible laser radiation in the Scanner Unit. The Scanner Unit should not be opened under any circumstances.

☛ **Caution:** Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

For Finland and Sweden
LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

☛ Varoitus! Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

☛ Varning – Om apparaten används på annat sätt än i denna Bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

Safety Information

IMPORTANT - For Your Safety

To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is properly grounded through the normal household wiring.

Extension cords used with this printer must be three-pin plug type and correctly wired to provide proper grounding. Incorrectly wired extension cords may cause personal injury an equipment damage.

The fact that the equipment operates satisfactorily does not imply that the power is grounded and that the installation is completely safe. For your safety, if in any doubt about the effective grounding of the power, consult a qualified electrician.

Disconnect device
This printer must be installed near a power outlet that is easily accessible. In case of emergencies, you must disconnect the power cord from the power outlet to shut off the power completely.

Geräuschemission / Acoustic Noise Emission (For Germany Only)

Lpa < 70 dB (A) DIN 45635-19-01-KL2

Wiring Information (For U.K. Only)

Important

If the mains plug supplied with this printer is not suitable for your socket outlet, remove the plug from the mains cord and fit an appropriate three pin plug. If the replacement plug is intended to take a fuse then fit the same rating fuse as the original.

If a moulded plug is severed from the mains cord then it should be destroyed because a plug with cut wires is dangerous if engaged in a live socket outlet. Do not leave it where a child might find it!

In the event of replacing the plug fuse, fit a fuse approved byASTA to BS1362 with the same rating as the original fuse.

Always replace the fuse cover. Never use a plug with the cover omitted.

WARNING - THIS PRINTER MUST BE EARTHED

The wires in the mains cord are coloured in accordance with the following code :

GREEN AND YELLOW :	**EARTH**
BLUE :	**NEUTRAL**
BROWN :	**LIVE**

The colours of the wires in the mains lead of this printer may not correspond with the coloured markings identifying the terminals in your plug.

If you need to fit a different plug, proceed as follows.

Remove a length of the cord outer sheath, taking care not to damage the coloured insulation of the wires inside.

Cut each of the three wires to the appropriate length. If the construction of the plug permits, leave the green and yellow wire longer than the others so that, in the event that the cord is pulled out of the plug, the green and yellow wire will be the last to disconnect.

Remove a short section of the coloured insulation to expose the wires.

The wire which is coloured green and yellow must be connected to the terminal in the plug which is marked with the letter “E” or by the safety earth symbol ⏚, or coloured green or green and yellow.

The wire which is coloured blue must be connected to the terminal which is marked with the letter “N” or coloured black or blue.

The wire which is coloured brown must be connected to the terminal which is marked with the letter “L” or coloured red or brown.

The outer sheath of the cord must be secured inside the plug. The coloured wires should not hang out of the plug.

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Epson is a registered trademark and FX-80 and FX-850 are trademarks of Seiko Epson Corporation.
Hewlett Packard is a registered trademark and HP LaserJet 6P, 6L, 5P, 5L, 4, 4L 4P, III, IIIP, II, and IIP are trademarks of Hewlett-Packard Company.
IBM, IBM PC, and Proprinter are registered trademarks of International Business Machines Corporation.
Microsoft and MS-DOS are registered trademarks of Microsoft Corporation. Windows is a registered trademark of Microsoft Corporation in the U.S. and other countries.
PostScript is a registered trademark of Adobe Systems Incorporated.
ENERGY STAR is a U.S. registered mark.

All other brand and product names mentioned in this User's Guide are registered

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The contents of this manual and the specifications of this product are subject to change without notice.

Brother reserves the right to make changes without notice in the specifications and materials contained herein and shall not be responsible for any damages (including consequential) caused by reliance on the materials presented, including but not limited to typographical and other errors relating to the publication.

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(For USA & CANADA Only)

IMPORTANT NOTE: For technical and operational assistance, you must call. Calls must be made ***from within*** that country.

In USA 1-800-276-7746

In CANADA 1-800-853-6660
1-514-685-6464 (within Montreal)

If you have comments or suggestions, please write us at:

In USA Printer Customer Support
Brother International Corporation
15 Musick
Irvine, CA 92618

In CANADA Brother International Corporation (Canada), Ltd.
- Marketing Dept.
1, rue Hôtel de Ville
Dollard-des-Ormeaux, PQ, Canada H9B 3H6

BROTHER FAX-BACK SYSTEM
Brother Customer Service has installed an easy to use fax-back system so you can get instant answers to common technical questions and product information for all Brother products. This is available 24 hours a day, 7 days a week. You can use the system to send the information to any fax machine, not just the one from which you are calling.
Call and follow the voice prompts to receive faxed instructions on how to use the system and your index of fax-back subjects.

In USA 1-800-521-2846

In Canada 1-800-685-5381
1-514-685-5381 (within Montreal)

DEALERS/SERVICE CENTERS (USA only)
For the name of a Brother authorized dealer or service center, call 1-800-284-4357.

SERVICE CENTERS (Canada only)
For service center addresses in Canada, call 1-800-853-6660.

INTERNET ADDRESS
For technical questions and downloading drivers: **http://www.brother.com**

CHAPTER 1
ABOUT THIS PRINTER

What is included in the Carton

Carton Components

When you unpack the printer, check to see that you have all of the following parts.

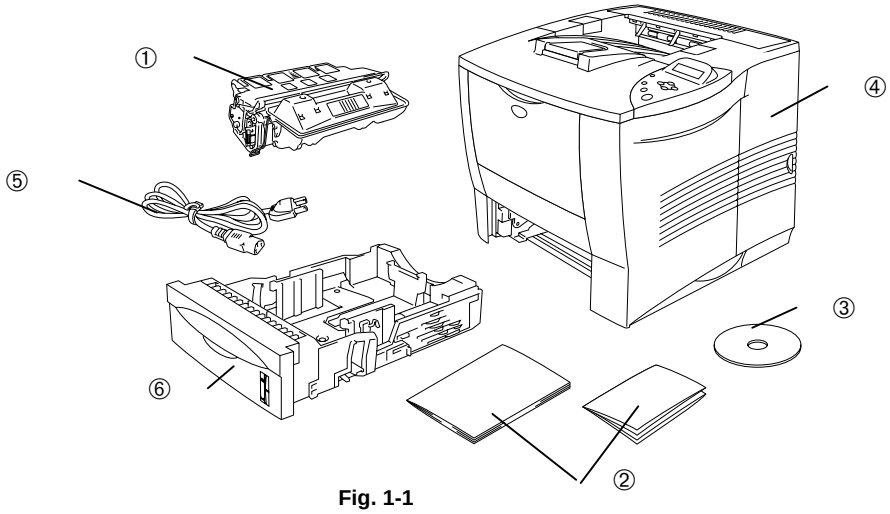


Fig. 1-1

1	Toner cartridge
2	Documents (Quick setup guide & Safety sheet)
3	CD-ROM
4	Printer
5	AC power cord
6	Paper cassette

Note

- An interface cable is not a standard accessory. Some computers have both a USB and a parallel port. Please purchase the appropriate cable for the interface you intend to use.
- Most existing parallel cables support bi-directional communication, but some might have an incompatible pin assignments or may not be IEEE 1284-compliant.
- Do not use a parallel cable that is longer than 3 meters (10 feet).
- The power cord may differ slightly from this figure depending on the country where you purchased the printer.
- If you use a USB cable, make sure it is a high speed twisted cable (12Mbps), and that you connect it to the USB connector of your PC. Do not connect the USB cable to the front of your PC or to the iMac's keyboard.

❖ What is included on the CD-ROM (For Windows® users)



1 Initial setup

See the setup process from hardware setup to driver installation on a video.

2 Install software

You can install not only the printer driver but also the following utility items.

For all users *(For more information, see Chapter 2)*

- Printer Driver
- Automatic E-mail Printing

For administrators

- BRAdmin Professional
- Network Printer Driver Wizard
- Network Print Software
- Storage Manager
- Analysis Tool

Fonts

3 Manuals

View the printer User's Guide, Network User's Guide and other documentation.

Brother Solutions Center

Introduction to our user support web page. You can easily access it and receive the latest drivers and information for this printer.

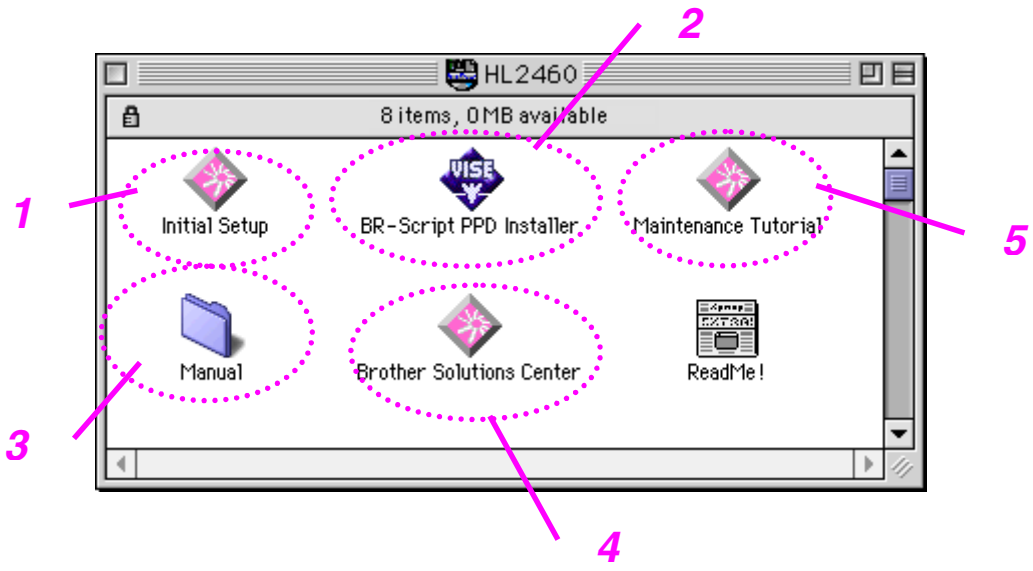
Maintenance Tutorial

See the maintenance videos for this printer. We recommend that you view the videos before getting started.

Make Disk Sets

If you do not have a CD-ROM drive, copy the contents of the CD-ROM to floppy disks.

❖ What is included on the CD-ROM (For Macintosh® on a Network users only)



1 Initial setup

See the setup process from hardware setup to driver installation on a video.

2 BR-Script PPD Installer

Printer driver *(For more information, see Chapter 2)*

This printer supports Mac OS versions 8.51, 8.6, 9.0 and 9.04.

3 Manuals

View the printer User's Guide, Network User's Guide and other documentation.

4 Brother Solutions Center

Introduction to our user support web page. You can easily access it and receive the latest drivers and information for this printer.

5 Maintenance Tutorial

See the maintenance videos for this printer. We recommend that you view the videos before getting started.

General view

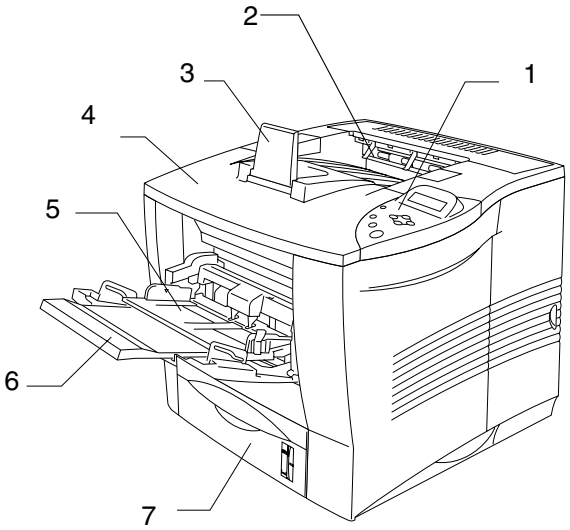


Fig. 1-2

1	Control panel
2	Face down output tray
3	Extension flap
4	Top cover
5	Multi-purpose tray
6	Multi-purpose extension flap
7	Upper paper cassette (Tray 1)

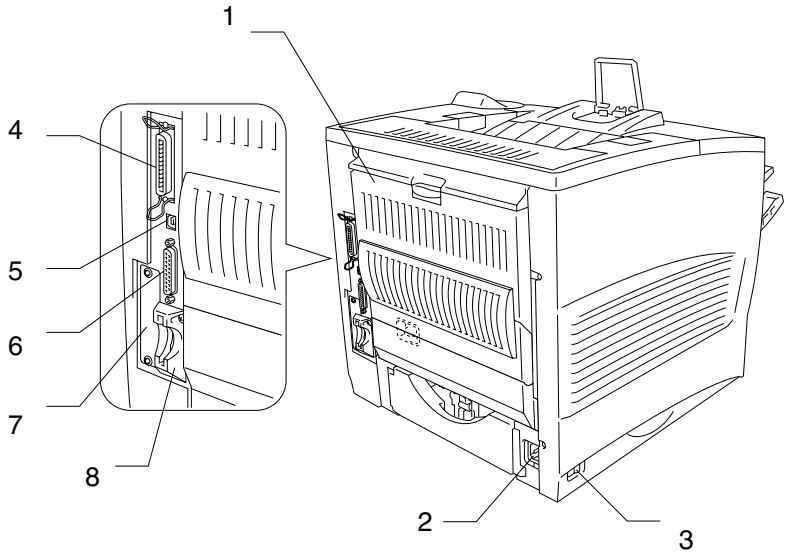


Fig. 1-3

1	Face up output tray
2	AC power inlet
3	Power switch
4	Parallel interface connector
5	USB connector
6	Serial interface connector
7	Network board slot (for optional Network board)
8	Card slot (for optional CompactFlash™ card)

Positioning the Printer

Please take note of the following before using the printer.

Power supply

Use the printer within the specified power range.

AC power:	±10% of the rated power voltage
Frequency:	50/60 Hz (220-240 V) or 50/60 Hz (110-120 V)

The power cord, including extensions, should not exceed 5 meters (16.5 feet).

Do not share the same power circuit with other high-power appliances, particularly an air conditioner, copier, shredder, etc. If it is unavoidable that you must use the printer with these appliances, we recommend you use a voltage transformer or a high-frequency noise filter.

Use a voltage regulator if the power source is not stable.

Environment

❖ Optimum environmental conditions

Use the printer only within the following ranges of temperature and humidity.

Possible operation range
Ambient temperature: 10°C to 32.5°C (50°F to 90.5°F)
Ambient humidity: 20% to 80% (without condensation)

Recommended operation range
Ambient temperature: 17.5°C to 25°C (63.5°F to 77°F)
Ambient humidity: 30% to 70% (without condensation)

The machine must be level within 5mm (0.2”) both front to rear and left to right.
To avoid possible build-up of ozone, locate this machine in a large well-ventilated room that has an air turnover of more than 30m³/hour/person.

❖ Space required for installation

Leave enough space around the printer. This space is necessary to operate the printer. The recommended (or minimum) space requirements are as follows:

No options

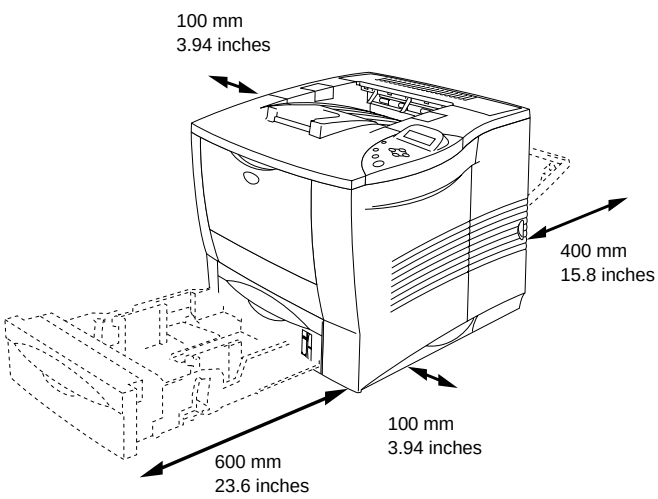


Fig. 1-4

Install optional Duplex unit, Lower tray and Mailbox.

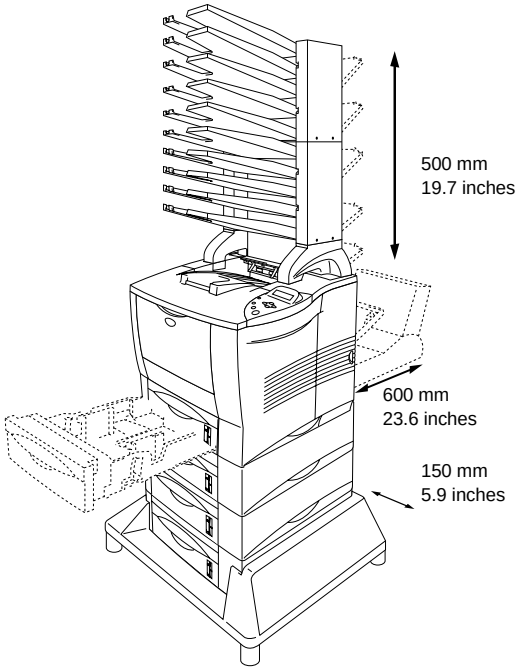


Fig. 1-5

- Do not place the printer where it is exposed to direct sunlight. Use a blind or a heavy curtain to protect the printer from direct sunlight if the printer is unavoidably set up near a window.
- Do not install the printer near other electronic equipment.
- Do not subject the printer to strong physical shocks or vibrations. Do not expose the printer to open flames or salty or corrosive gasses.
- Keep the printer clean. Do not install the printer in a dusty place.
- Do not install the printer near an air conditioner or humidifier.
- Confirm that the wall outlet is near the machine and freely accessible, so that, in the event of an emergency, it can be easily unplugged.
- Only connect the machine to the power source described under Power Supply in this manual.
- Place the printer on a flat, horizontal surface.
- Do not damage, break or make any modifications to the power cord. Do not place heavy objects on it, pull it hard or bend it more than necessary. These actions could damage the cord. A frayed or damaged cord might cause an electrical and fire hazard.
- Ventilate the room where you are using the printer.
- Do not place the printer where the ventilation hole of the printer is obstructed. Keep a gap of approximately 100 mm (4 inches) between the ventilation hole and the wall.
- Be careful not to trip on the legs of the optional stabilizer.

What Kind of Paper can I Use?

Print media and size

The Paper trays and LCD panel descriptions in this manual are named as shown below.

Upper paper tray	Tray 1
Multi-purpose tray	MP tray
Optional Lower tray	Tray 2/3/4
Optional Duplex unit for Duplex printing	DX
Optional Mailbox unit	MX

Jump to the page for each printing method by clicking the check mark in the following table.

Media type	***Tray 1*** 60 – 105 g/m^2 (16 – 28 lbs.)	***MP tray*** 60 – 200 g/m^2 (16 – 53 lbs.)	***Tray 2/3/4*** 60 – 105 g/m^2 (16 – 28 lbs.)	***DX*** 60 – 105 g/m^2 (16 – 28 lbs.)	***MX*** 60 – 105 g/m^2 (16 – 28 lbs.)	***Select the Media type from the printer driver***
Plain paper	✔	✔	✔	✔	✔	Plain paper
Recycled paper	✔	✔	✔	✔	✔	Plain paper
Bond paper	✔	✔	✔	✔	✔	Bond paper
Thick paper		✔				Thick paper or Thicker paper
Transparency		✔ Only A4 or Letter size				Transparency
Label		✔ Only A4 or Letter size				Plain paper
Envelope		✔				Envelope
Card stock		✔				Thick paper or Thicker paper

Note

When you print on thick paper, labels and card stock, we recommend that you select the media type setting as in the above table from the printer driver according to the paper weight.

	Tray 1	***MP tray***	***Tray 2/3/4***
Paper size	A4, Letter, Legal, B5(JIS), B5(ISO), Executive, A5, A6, B6	A4, Letter, Legal, B5(JIS), B5(ISO), Executive, A5, A6, B6 COM-10, Monarch, C5, DL Width: 73.5 to 216 mm (2.89 to 8.5 in.) Length: 116 to 356 mm (4.57 to 14.0 in.)	A4, Letter, Legal, B5(JIS), B5(ISO), Executive, A5
Capacity	500 sheets (80 g/m^2 or 20 lbs.)	100 sheets (80 g/m^2 or 20 lbs.) transparency : 10 sheets envelope : 10 sheets label stock : 10 sheets	500 sheets (80 g/m^2 or 20 lbs.)

	DX	***MX***
Paper size	A4, Letter, Legal, B5(JIS), Executive	A4, Letter, B5(JIS), B5(ISO), Executive
Capacity		100 sheets per bin (80 g/m^2 or 20 lbs.)

We recommend the following print methods (output tray) for each media type:

Jump to the page for each printing method by clicking the check mark in the following table.

Media type	*Face down*	*Face up*	*Notes*
Plain paper	✔	✔	60 g/m^2 to 105 g/m^2 (16 to 28 lbs.)
Recycled paper	✔	✔	
Bond paper	✔	✔	
Thick paper	✔	✔	105 g/m^2 to 150 g/m^2 (28 to 40 lbs.)
Thicker paper	✔	✔	150 g/m^2 to 200 g/m^2 (40 to 53 lbs.)
Transparency	✔	✔	OHP film
Label		✔	
Envelope		✔	
Card stock		✔	

You can select the priority of the paper source in the PAPER mode by using the control panel.
For more information about the setting, see Chapter 3.

Note

- If you print on thick paper that weighs more than 150 g/m^2 (40 lbs.), use face up printing.
- We recommend that you use face up printing when you print on transparencies.
- If a paper jam occurs when using A6 size paper, remove the jammed paper, turn over the stack of the paper in the paper cassette, and print it again. To remove the jammed paper, see Chapter 6.
- If the paper is misfeeding or multi pages frequently feed at once when you print on small size paper or thick paper, change the paper thickness switch in the paper cassette. For more information, see page 1-21.

Media types in the driver settings

You can select the following media types in the driver settings. Please see, "Features in the printer driver" in Chapter 2.

- Plain paper : 60 g/m^2 to 105 g/m^2 (16lb to 28lb)
- Thick paper : 105 g/m^2 to 150 g/m^2 (28lb to 40lb)
- Thicker paper : 150 g/m^2 to 200 g/m^2 (40lb to 53lb)
- Bond paper : Rough paper - 60 g/m^2 to 200 g/m^2 (16lb to 53lb)
- Transparency : OHP film
- Envelope

Recommended paper

	Europe	***USA***
Plain paper	Xerox Premier 80 g/m^2	Xerox 4200DP 20 lb
Recycled paper	Steinbis Recycling Copy 80 g/m^2	
Transparency	3M CG3300	3M CG 3300
Label	Avery laser label L7163	Avery laser label #5160

- ♦ Before you purchase large quantities of paper, please test print a small quantity to ensure that the paper is suitable.
- ♦ Use paper designed for plain paper copying.
- ♦ Use paper that is 75 to 90 g/m^2 (20 to 24lb).
- ♦ Use neutral paper; avoid acidic or alkaline paper.
- ♦ Use Long grain paper.
- ♦ Use paper with a moisture content of approximately 5%.
- ♦ This printer can use recycled paper according to DIN 19309.

❖ Printable area

The figure below shows the printable area when using the PCL emulation.

Portrait

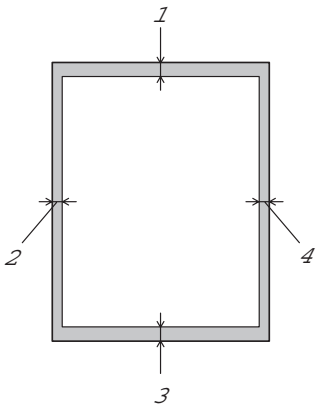


Fig. 1-6

	USA/Canada	***Europe/other countries***
1	4.2 mm (0.17 inch)	4.2 mm
2	6.35 mm (0.25 inch)	6.01 mm
3	4.2 mm (0.17 inch)	4.2 mm
4	6.35 mm (0.25 inch)	6.01 mm

Landscape

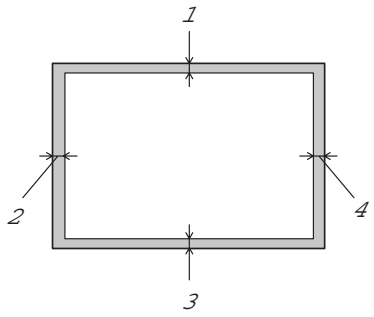


Fig. 1-7

	USA/Canada	***Europe/other countries***
1	4.2 mm (0.17 inch)	4.2 mm
2	5.08 mm (0.2 inch)	5 mm
3	4.2 mm (0.17 inch)	4.2 mm
4	5.08 mm (0.2 inch)	5 mm

Printing Methods

Printing from Upper paper tray (Face down printing)

☛ **1.** Pull the paper cassette out of the printer.

☛ **2.** While pressing the paper guide release lever, slide the adjusters to fit the paper size. Check that they fit correctly into the slots.

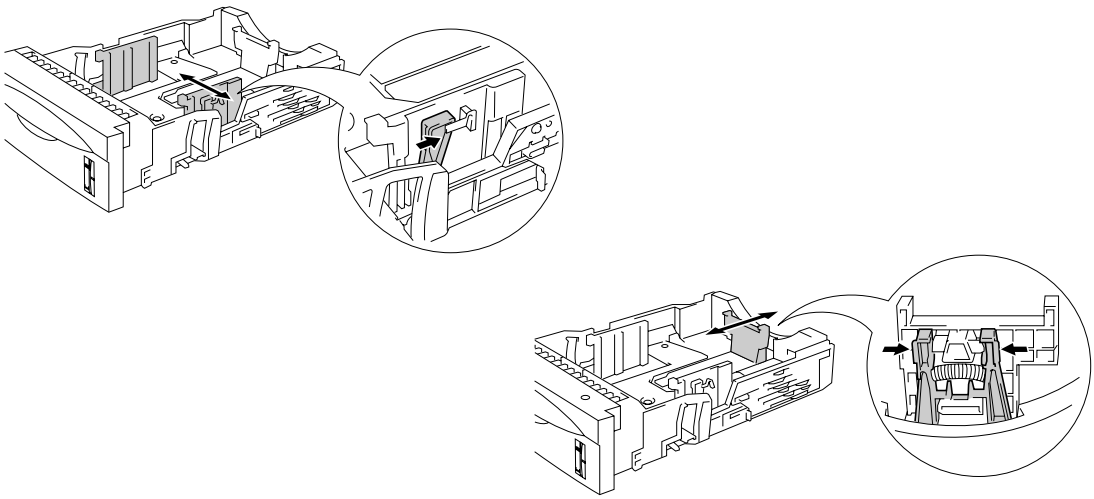
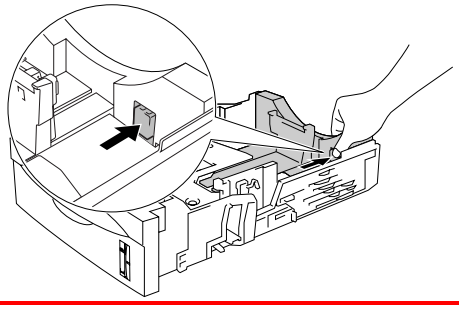


Fig. 1-8

Note

For Legal size paper, press the universal guide release button and pull out the rear of the paper cassette.



3. Load paper in the paper cassette. Check that the paper is flat and below the limit ▼ mark.

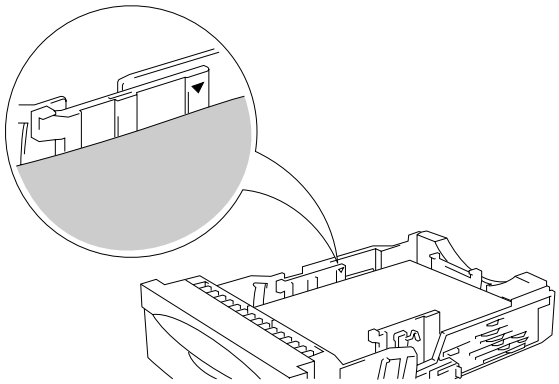
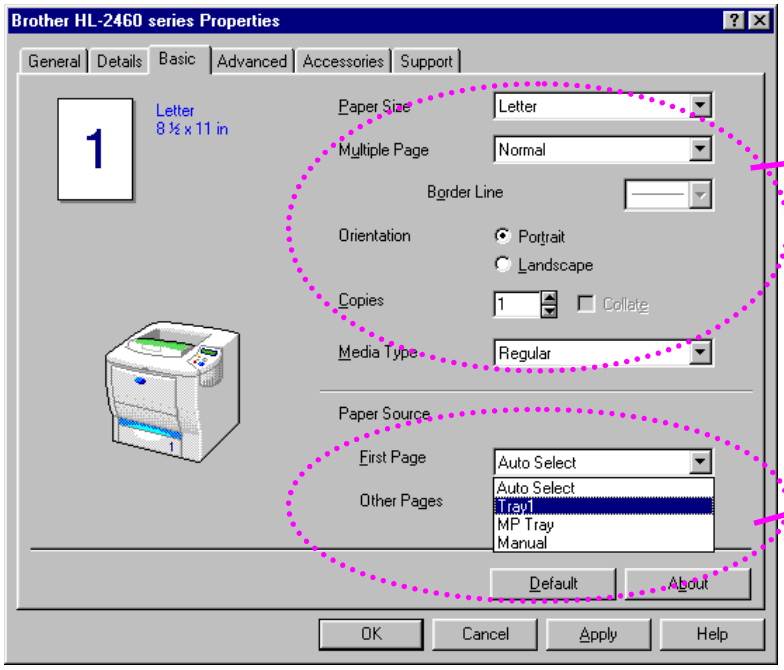


Fig. 1-9

4. Install the paper cassette into the printer.

☛ **5.** Change the following settings in the printer driver.

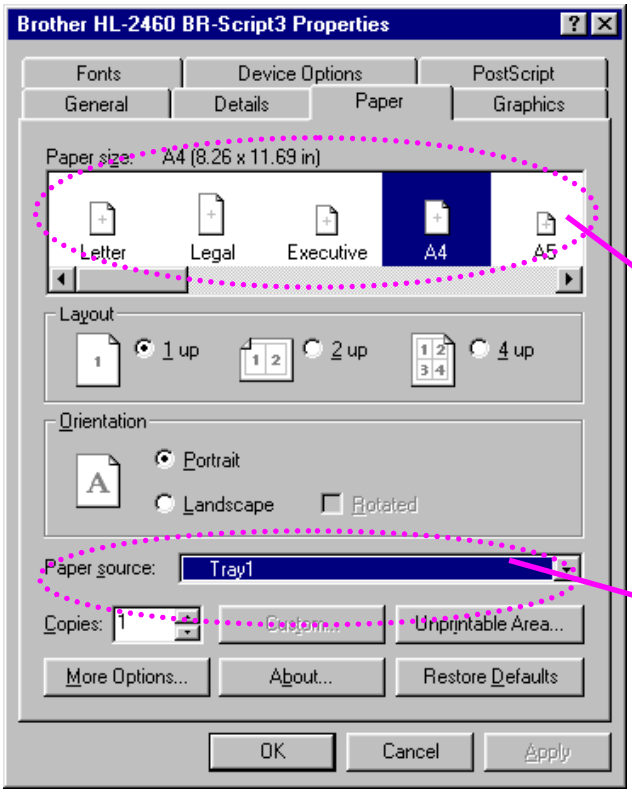
<PCL driver>



Select the paper size, media type etc.

Select Tray 1.

<PS driver>

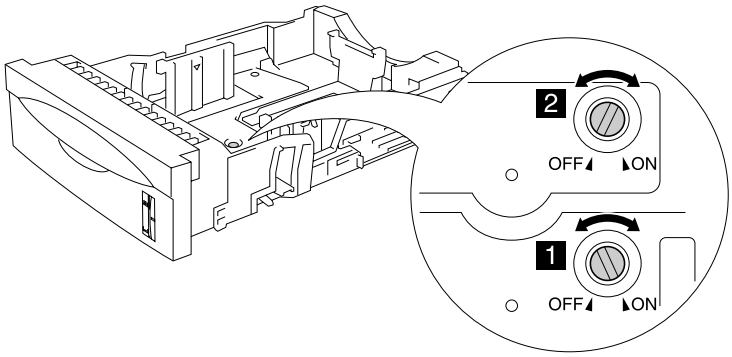


Select the Paper size.

Select Tray 1.

Note

If the paper is misfeeding or multi pages frequently feed at once when you print on small size paper or thick paper, change the paper thickness switches on the floor of the paper cassette as follows:



The switches shown in this illustration are in the default setting position.

A6	Switch 1: OFF Switch 2: OFF
A4 100 g/m^2 (27 lbs) Letter 105 g/m^2 (28 lbs) Legal 105 g/m^2 (28 lbs)	Switch 1: ON Switch 2: ON
Executive, A5, B6	Switch 1: OFF Switch 2: ON

❖ *Tray ID setting (Only if the lower tray unit is installed)*

If somebody moves the cassette into another tray position and even if you print the data without knowing this has been done, the driver automatically selects the correct tray and prints according to this setting.

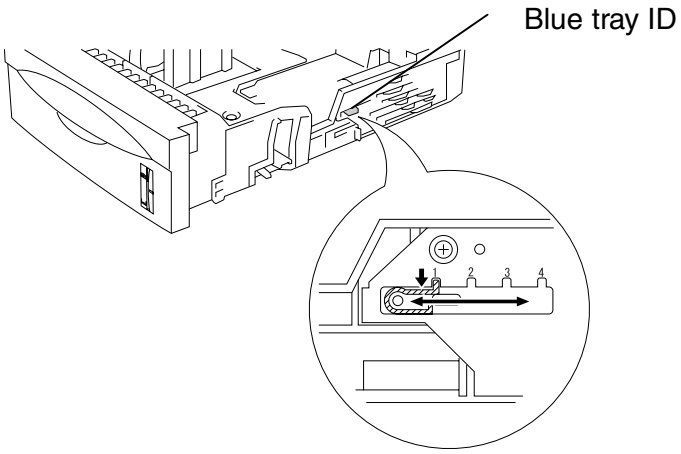


Fig. 1-10

Printing paper from the multi-purpose tray

Note

- For correct printing, you must select the same paper size from within your software application as the paper in the tray.
- If your application software does not support paper size selection in its print menu, you can change the paper size on the printer's control panel under the PAPER menu. For more information, see Chapter 3.

☛ **1.** Open the multi-purpose tray and lower it gently.

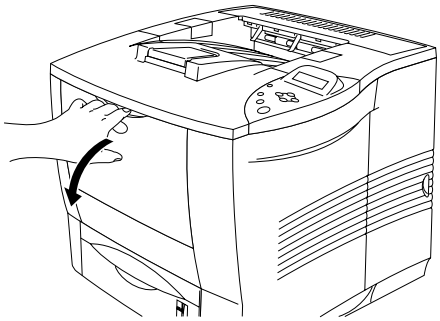


Fig. 1-11

☛ **2.** Pull out the multi-purpose extension flap.

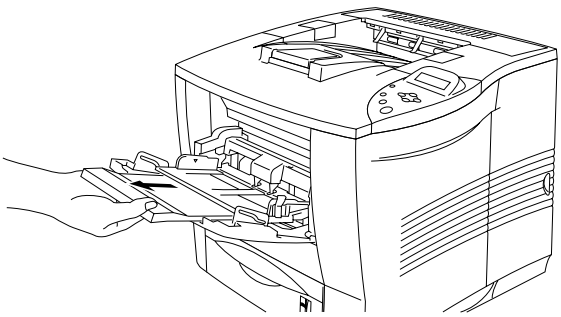


Fig. 1-12

☛ **3.** When loading paper in the multi-purpose tray, make sure it touches the back of the tray and remains below the limit ▼ mark.

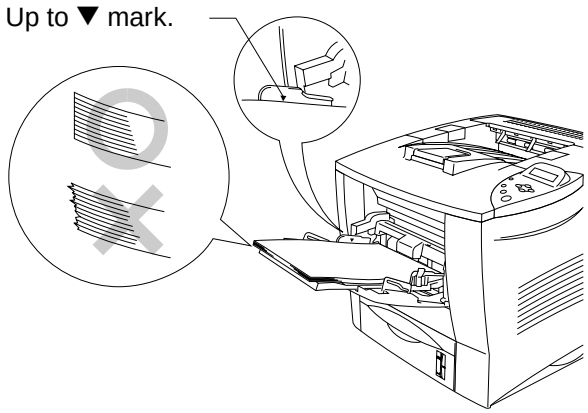


Fig. 1-13

Note

Make sure that the neatly stacked paper is correctly seated on the multi-purpose tray, otherwise paper may not be fed correctly, resulting in a skewed printout or a paper jam

☛ **4.** While pressing the paper guide release lever, slide the adjuster to fit the paper size.

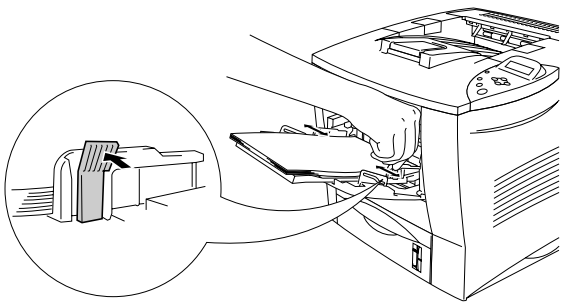


Fig. 1-14

When you print on special paper such as envelopes, thick paper, labels, etc., open the face up output tray to print face up. See “Printing on envelopes” or “Printing on Labels, Transparencies, etc. ” in this chapter.

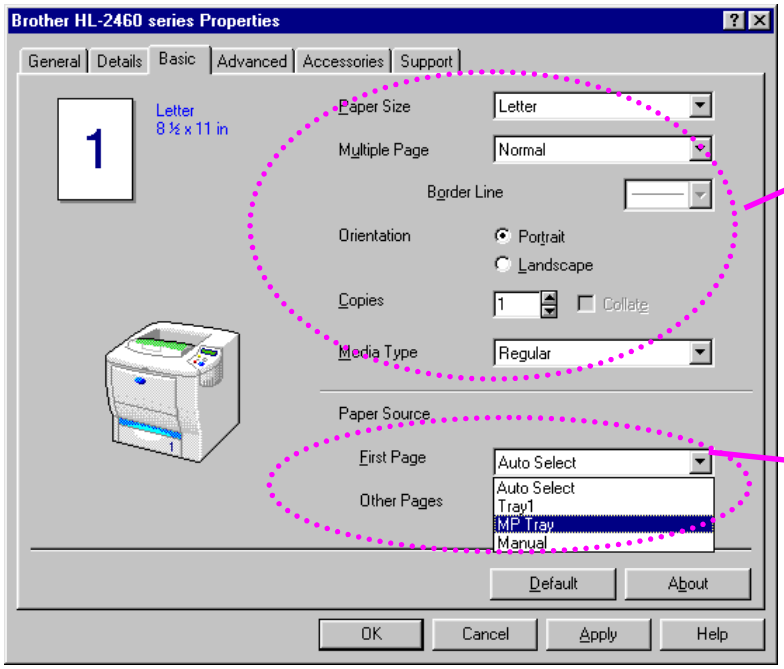
Note

When you place paper on the multi-purpose tray, note the following:

- When printing, the inside tray automatically rises to feed paper into the printer.
- The print surface must be face up.
- Insert the leading edge of the paper first and push it gently into the tray.
- The top of the paper stack must be under the guides that are on both sides of the tray. The maximum thickness is 10 mm (or 0.39 inch).

5. Change the following settings in the printer driver.

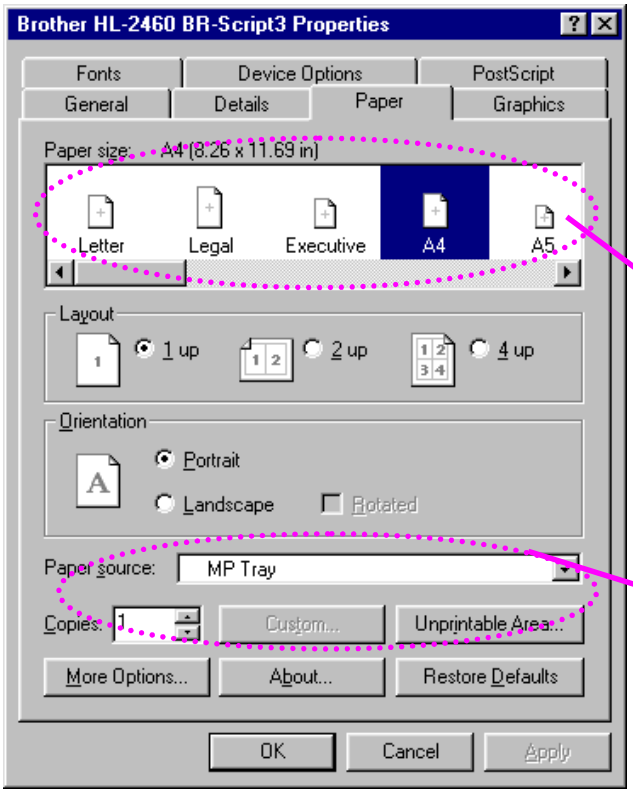
<PCL driver>



Select the paper size, media type etc.

Select the MP tray etc.

<PS driver>



Select the paper size.

Select MP tray.

Printing on envelopes (Face up printing)

Envelope types to avoid

- Envelopes that are damaged, curled, wrinkled, or irregularly shaped
- Envelopes that are extremely shiny or highly textured
- Envelopes with clasps, snaps or tie strings.
- Envelopes with self-adhesive closures
- Envelopes of baggy construction
- Envelopes that are not sharply creased
- Embossed envelopes
- Envelopes that were previously printed by a laser printer
- Envelopes that are pre-printed on the inside
- Envelopes that cannot be arranged uniformly when placed in a pile
- Envelopes constructed with paper that exceeds the paper weight specifications for the printer.
- Poorly manufactured envelopes with edges that are not straight or consistently square.
- Envelopes with transparent windows, holes, cutouts or perforations.

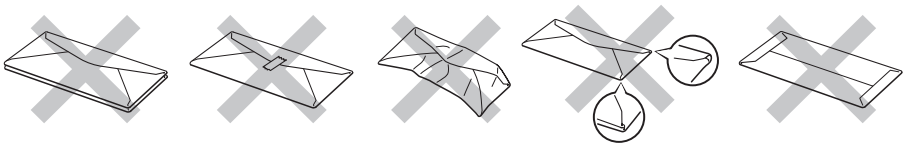
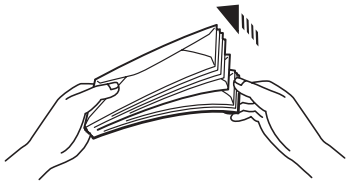


Fig. 1-15

USE OF ANY OF THE ENVELOPES LISTED ABOVE MAY CAUSE DAMAGE TO YOUR PRINTER. SUCH DAMAGE IS NOT COVERED UNDER ANY WARRANTY OR SERVICE AGREEMENT.

Note

- Before printing envelopes, you must fan the stack well to avoid paper jams and misfeeds.



- Do not load different types of paper at the same time in the paper tray because it may cause paper jams or misfeeds.
- Do not print envelopes using duplex printing.
- For correct printing, you must select the same paper size from within your software application as the paper in the tray.
- If your application software does not support paper size selection on its print menu, you can change the paper size on the printer's control panel under the PAPER menu. For more information, see Chapter 3.

1. Open the multi-purpose tray and lower it gently.

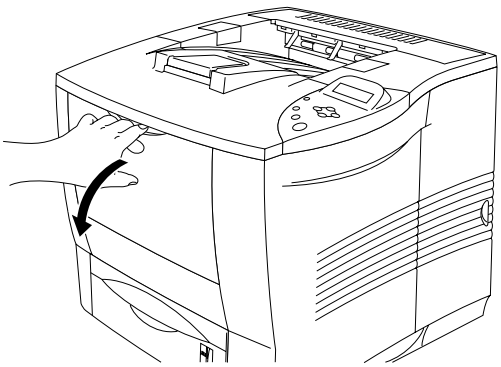


Fig. 1-16

☛ **2.** Pull out the multi-purpose extension flap.

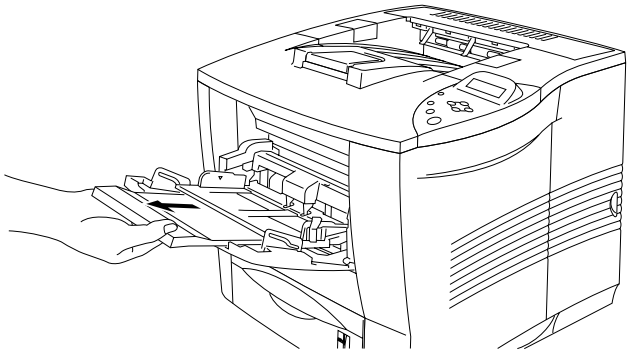


Fig. 1-17

☛ **3.** Open the face up output tray.

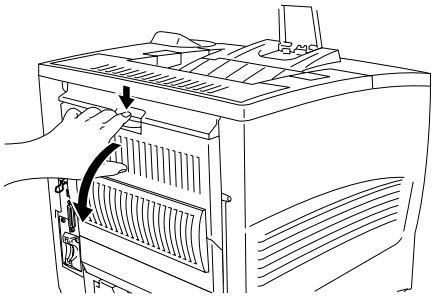
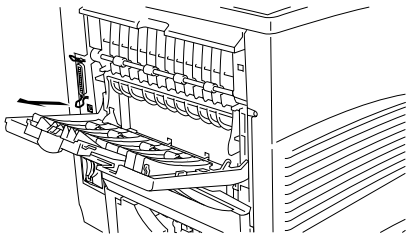


Fig. 1-18

✒ ***Note***

Pull out the face up output tray extension.



☛ **4.** Place the envelopes in the multi-purpose tray so they touch the back of the tray and remain below the limit ▼ mark.

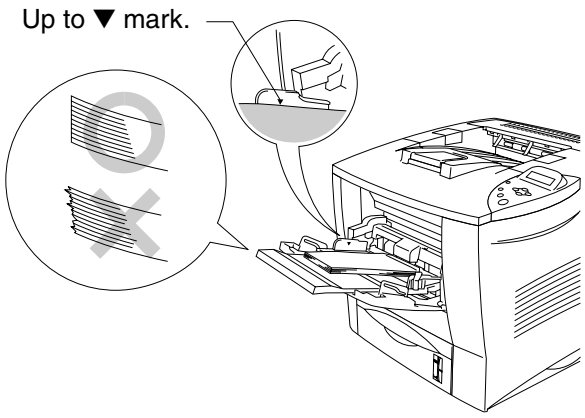


Fig. 1-19

Note

Make sure that the neatly stacked paper is correctly seated on the multi-purpose tray, otherwise paper may not be fed correctly, resulting in a skewed printout or a paper jam

☛ **5.** Press and slide the paper width adjuster to fit the envelope size.

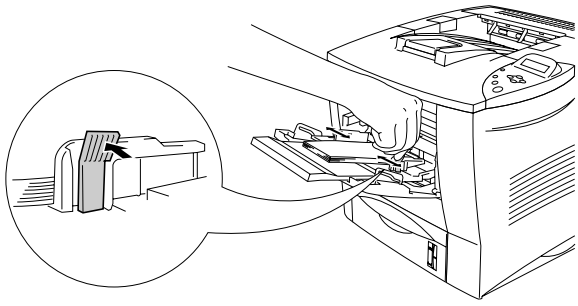


Fig. 1-20

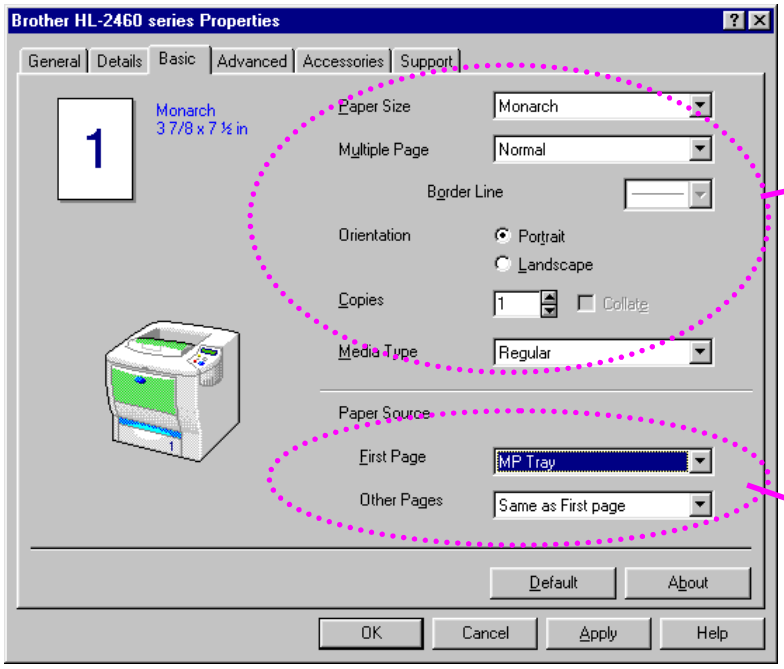
Note

When you place paper on the multi-purpose tray, note the following:

- The print surface must be face up.
- The leading edge must be placed inside first so it rests lightly against the printer.
- The top of the paper stack must be under the guides that are on both sides of the tray.

☛ **6.** Change the following settings in the printer driver.

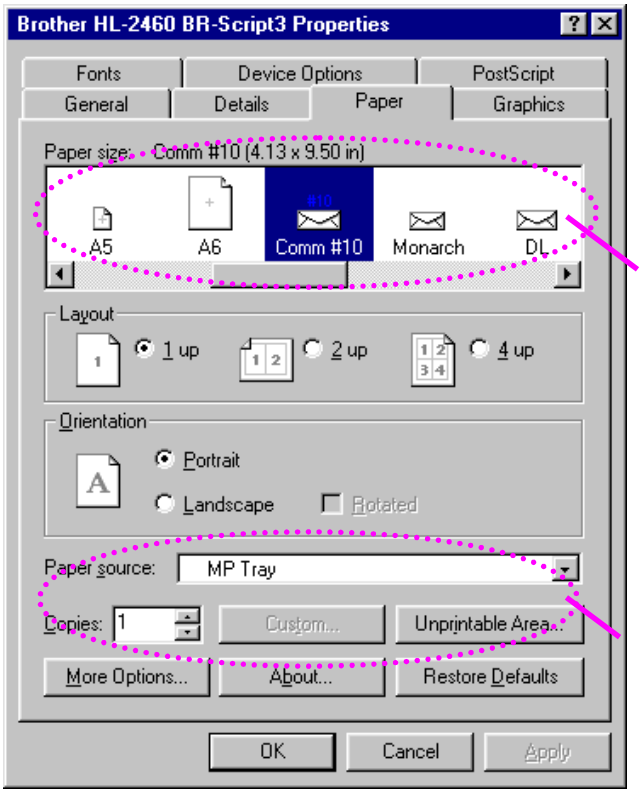
<PCL driver>



Select the envelopes size, media type etc.

Select MP tray.

<PS driver>



Select the envelope size.

Select MP tray.

Note

- When printing, the inside tray automatically rises to feed paper into the printer.
- If envelopes get smudged during printing, set the print density to a higher value in the QUALITY mode with the control panel setting for darker printouts. To adjust the print density setting, see Chapter 3.
- Envelope joints that are sealed by the manufacturer should be secure.
- All sides should be properly folded without any wrinkles or creases.

Most envelopes will perform acceptably on your printer. However, some envelopes will have feed and print quality problems because of their construction. A suitable envelope should have edges with straight, well creased folds and should not have more than two thicknesses of paper along the leading edge. The envelope should lie flat and not have baggy or flimsy construction. Purchase quality envelopes only from a supplier who understands that the envelopes will be used in a laser printer. All envelopes should be tested prior to use to ensure desirable print results.

Note

The manufacturer neither warrants nor recommends the use of a particular envelope because envelope properties are subject to change by the envelope manufacturer. The entire responsibility for the quality and performance of envelopes lies with the customer.

Printing on Labels, Transparencies etc.

Special paper Types to Avoid

- Damaged, curled, wrinkled, or irregularly shaped paper

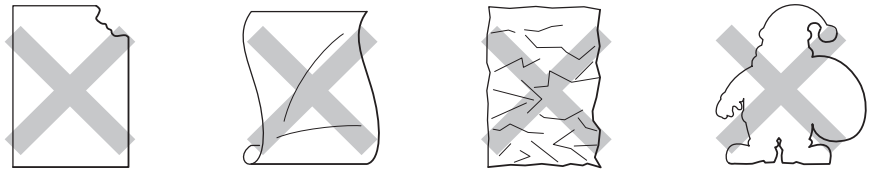
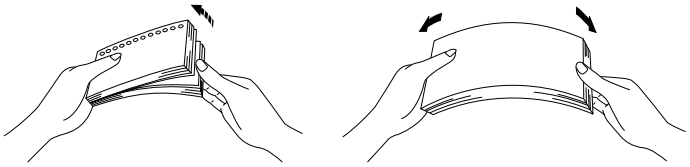


Fig. 1-21

Note

- Before using paper with holes, such as organizer sheets, you must fan the stack well to avoid paper jams and misfeeds.



- Do not use paper with perforations at the edges.
- Do not place the punch hole near the actuator (paper sensor).
- Do not use organizer sheets that are stuck together. The glue that is used might cause damage to the printer.
- Do not load different types of paper at the same time in the paper tray because it may cause paper jams or misfeeds.
- For correct printing, you must select the same paper size from within your software application as the paper in the tray.
- If your application software does not support paper size selection on its print menu, you can change the paper size on the printer's control panel under the PAPER menu. For more information, see Chapter 3.

☛ **1.** Open the multi-purpose tray and lower it gently.

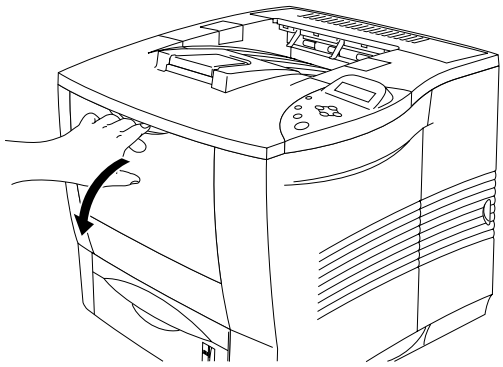


Fig. 1-22

☛ **2.** Pull out the multi-purpose extension flap.

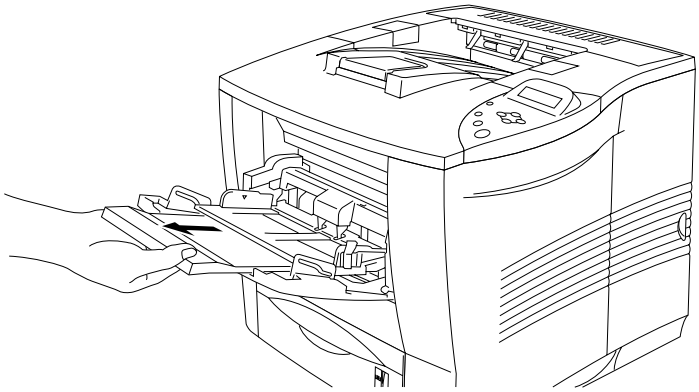


Fig. 1-23

☛ **3.** Open the face up output tray.

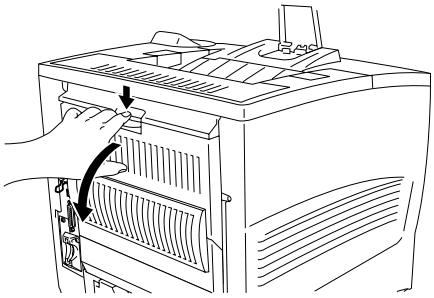
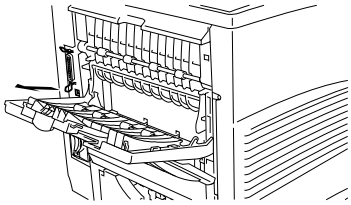


Fig. 1-24

Note

Pull out the face up output tray extension.



☛ **4.** When you load paper in the multi-purpose tray, make sure it touches the back of the tray and remains below the limit ▼ mark.

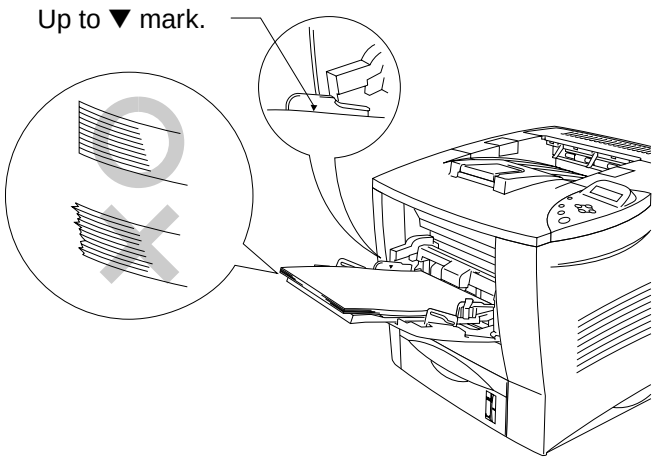


Fig. 1-25

Note

Make sure that the neatly stacked paper is correctly seated on the multi-purpose tray, otherwise paper may not be fed correctly, resulting in a skewed printout or a paper jam

5. While pressing the paper guide release lever, slide the adjuster to fit the paper size.

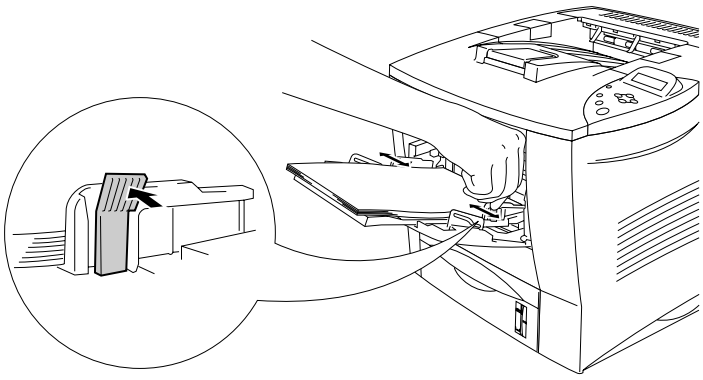


Fig. 1-26

Warning

Do not touch transparencies that have just been printed because they are very **hot!**

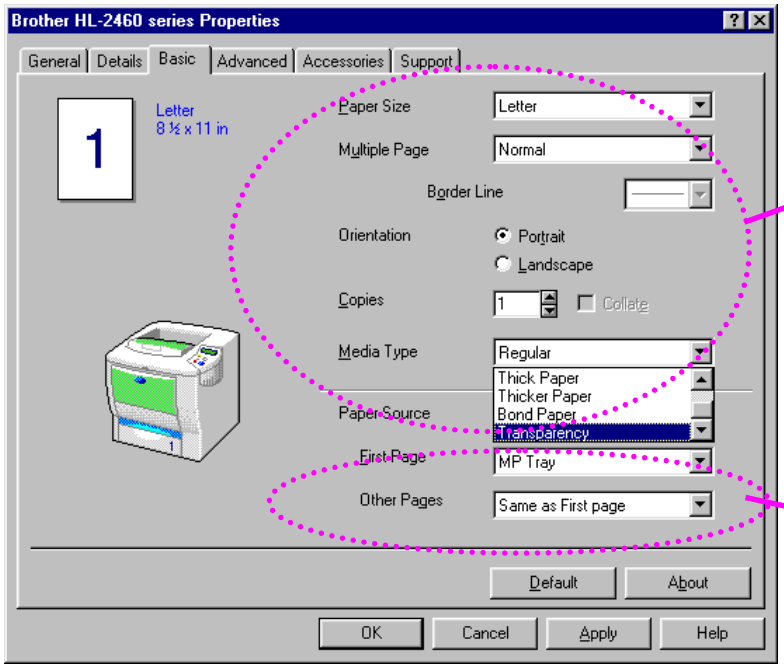
Note

When you place paper in the multi-purpose tray, note the following:

- When printing, the inside tray automatically rises to feed paper into the printer.
- The print surface must be face up.
- The leading edge must be placed inside first so it rests lightly against the printer.
- The top of the paper stack must be under the guides that are on both sides of the tray.

☛ **6.** Select the following setting in the printer driver.

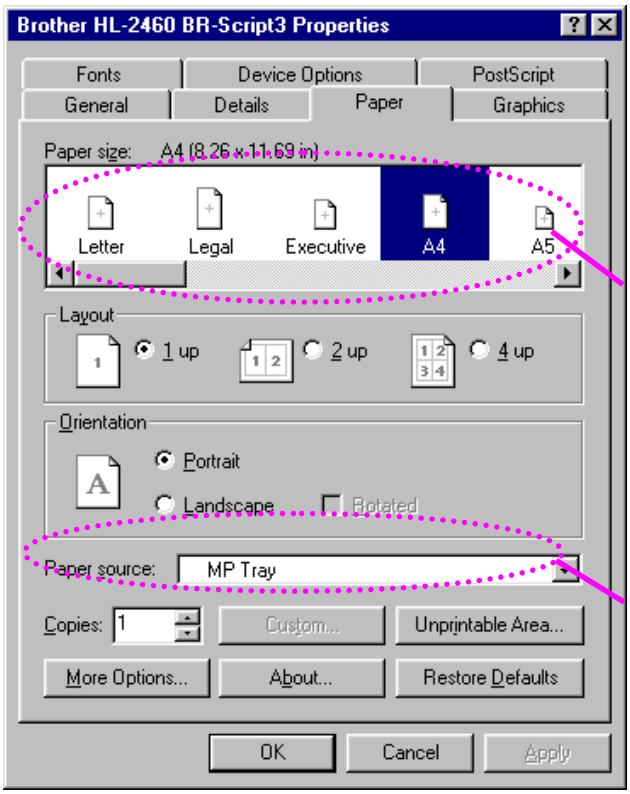
<PCL driver>



Select the paper size, media type etc.

Select MP tray.

<PS driver>



Select the paper size.

MP tray

Printing to the Face up output tray (Face up printing)

When the face up output tray is open, the printer has a straight paper path from the paper cassette or multi-purpose tray to the rear of the printer. Use this output method when you want to print on special media that is thick or should not be bent, such as thick paper, labels, card stock or envelopes.

☛ **1.** Open the face up output tray.

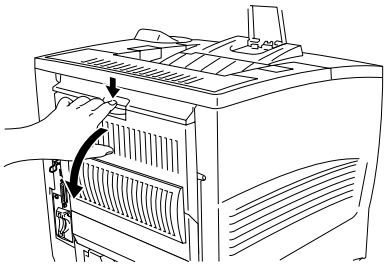


Fig. 1-27

☛ **2.** Pull out the face up output tray extension.

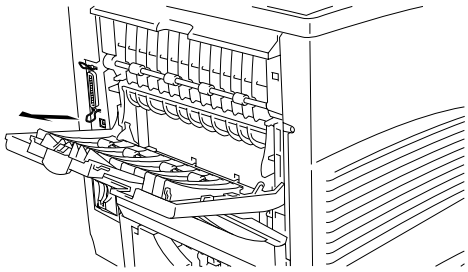


Fig. 1-28

☛ **3.** Place the paper in the paper tray or the multi-purpose tray.

☛ **4.** After the printer ejects all the printed pages, remove them and close the face up output tray.

Manual Feed

If you place paper in the multi-purpose tray when the setting MANUAL FEED = ON has been set in PAPER mode using the control panel, the printer will load paper only from the multi-purpose tray.

Note

When you feed paper manually, note the following:

- If your application software supports a manual feed selection in the print menu, you can select it through the software. Since the software or command setting overrides the switch setting, you do not need to set the MANUAL FEED mode and the paper size in PAPER mode.
- If you use pre-printed paper in the multi-purpose tray, the paper should be inserted top edge first with the pre-printed side face up.

CHAPTER 2
DRIVER AND SOFTWARE

Printer Driver

A Printer Driver is software that translates data from the format used by a computer into the format required by a particular printer, which typically is a printer command language or page description language.

The printer drivers for the following operating systems are on the supplied CD-ROM. The latest printer driver can also be downloaded from the Brother Solutions Center at http://solutions.brother.com.

For Windows® 95/98/Me, Windows NT® 4.0 and Windows® 2000

- PCL (Hewlett-Packard laser printer-LaserJet) driver
- BR-Script (PostScript Level3 language emulation) driver

For Macintosh

- BR-Script (PostScript Level3 language emulation) driver (For more information, see the Network User's Guide on the CD-ROM.)

	PCL driver	PS driver
Windows 95/98/Me	✔	✔
Windows 2000	✔	✔
Windows NT4.0	✔	✔
Macintosh (via Network)		✔

Note

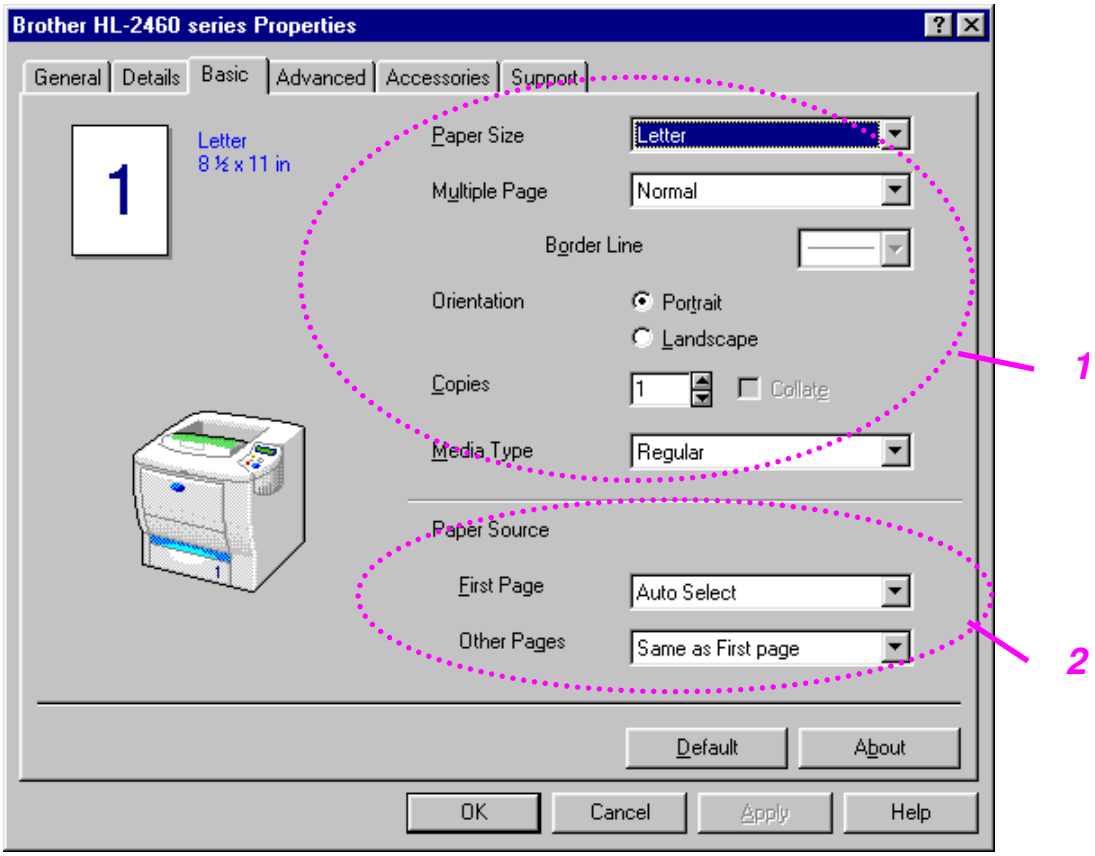
- For more information about emulations, see Chapter 3.
- If you want to print from a DOS application, please see Chapter 6.
- The screen shot may differ depending on the OS you are using.

Features in the PCL printer driver (only Windows users)

For more information, please see the on-line Help in the printer driver.

You can also change settings by clicking the illustration on the left side of the tab.

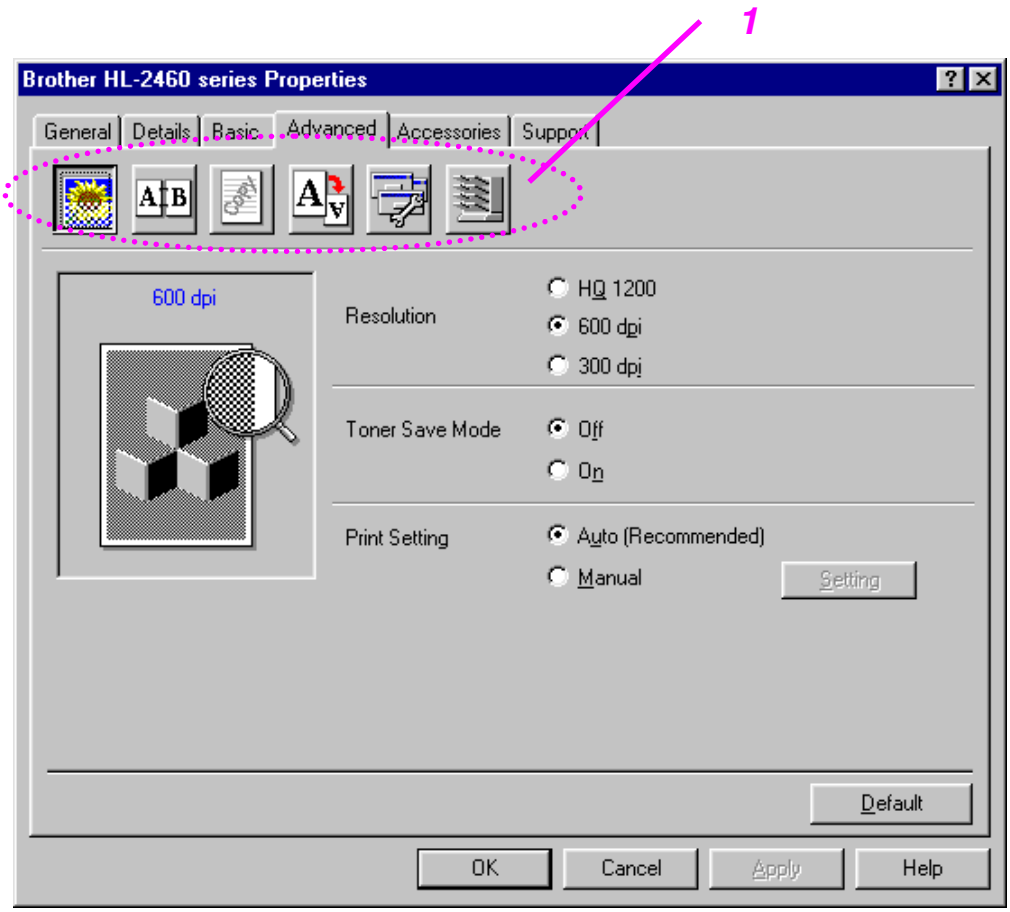
❖ Basic tab



1 Select the Paper size, Multi-page, Orientation etc.

2 Select the Paper source etc..etc.

❖ Advanced tab



1 Change the tab settings by clicking these icons as follows:

Print Quality
Duplex
Watermark
Page Setting
Device Options
Destination

♦ *Print Quality*

Select the Resolution, Toner save and Print settings.

- You can change the resolution as follows:
  Draft 300 dpi
  Normal 600 dpi
  Fine HQ1200: Brother HQ1200 technology provides the best print quality while printing at full engine speed.

- With the Print setting set to MANUAL, you can change the Brightness, Contrast, Graphics mode settings and TrueType mode options manually.

- Toner Save
  You can save running costs by turning on the Toner Save mode, which reduces the printer density.

♦ *Duplex*

To use duplex printing, you need to install the optional Duplex unit onto your printer. If you select the duplex button, the dialogue box for making duplex settings appears. Six types of duplex binding directions are available for each orientation.

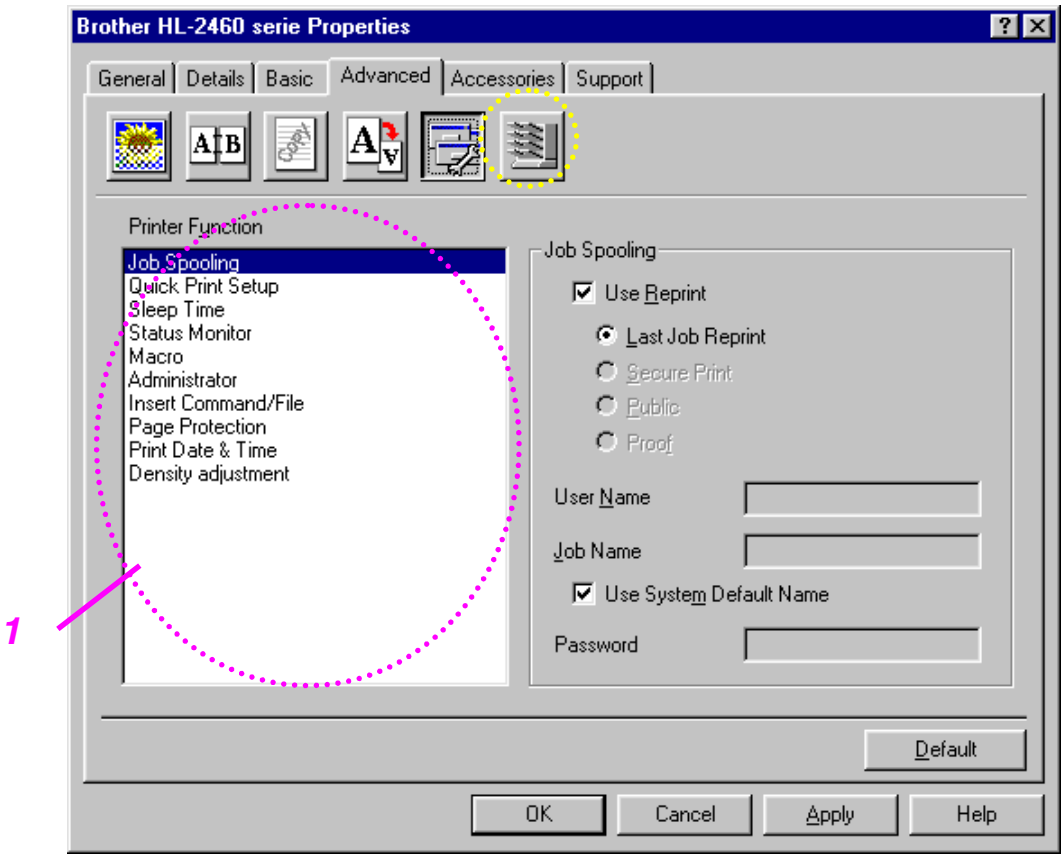
♦ *Watermark*

You can place a watermarked logo or text into your documents.
When you use a bitmap file as a watermark, you can change the size of the watermark and place it anywhere you like on the page.
When you use text as a watermark, you can change the font, darkness and angle settings.

♦ *Page Setting*

Change the print image scaling, and then select Mirror / Reverse print options.

♦ *Device Options*



1 Set the following print function modes in this tab.

Job Spooling (For more information, see Chapter 3)
Quick Print Setup
Sleep Time
Status Monitor
Macro
Administrator
Insert Command/File
Page Protection
Print Date & Time
Density adjustment

Job Spooling

You can reprint a document without sending the data again (except for secure printing) from your PC because the printer will save data that you specify for reprinting.

- Last job reprint : Reprint the last job
- Secure Print : Print the data with a password
- Public : Save the data without a password
- Proof : Save the data and print it

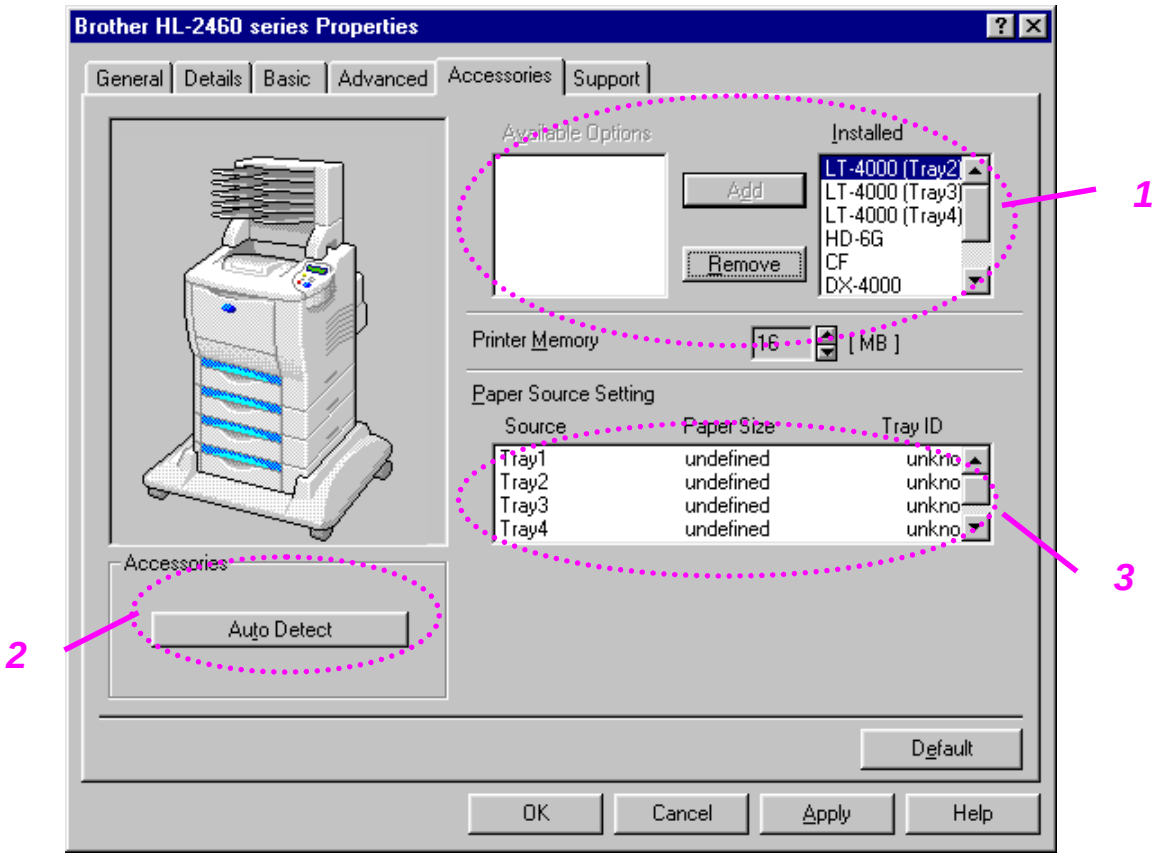
For more information about the reprint function, see “REPRINT switch” in Chapter 3.

Note

If you want to prevent other people from printing your data using the reprint function, remove the “Use Reprint” check mark in Job Spooling settings.

❖ Accessories tab

When you install options, add those options and choose the settings for them in the Accessories tab as follows.



1 You can manually add and remove the options for any optional unit devices that are installed on the printer. Tray settings, etc., will match the installed options.

2 Automatic Detection of Printer Options

This function detects the current optional unit devices automatically and the available functions are reflected in the printer driver.

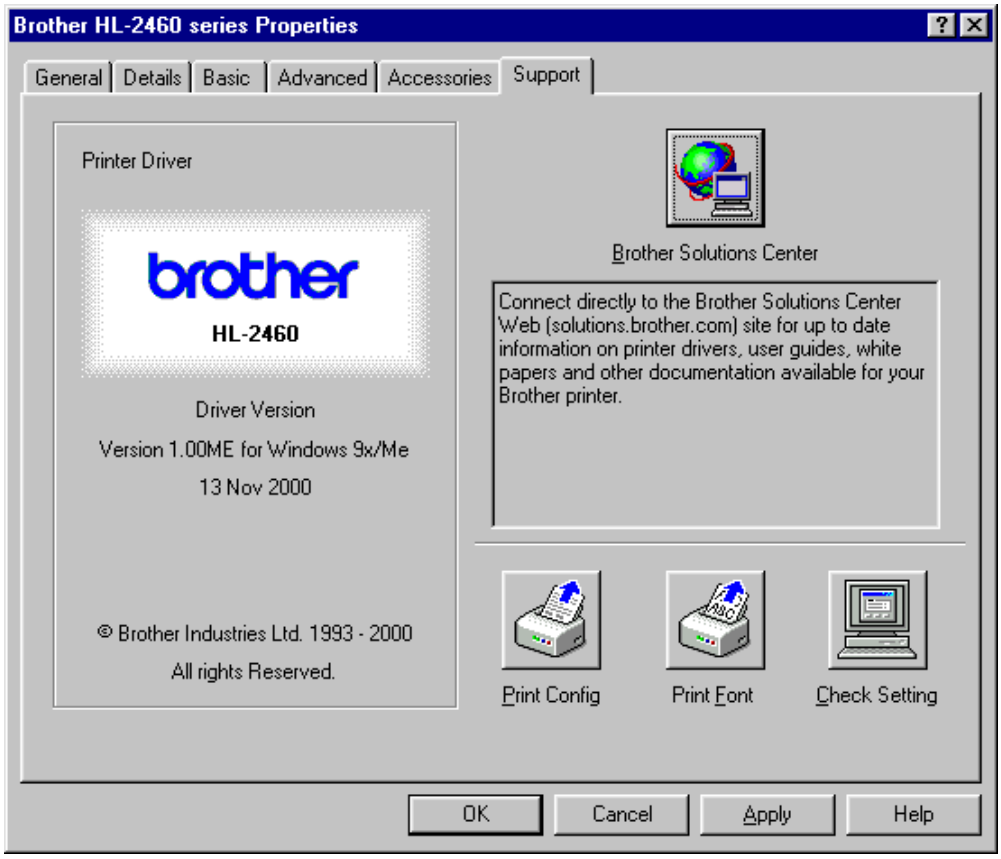
When you press “Auto Detect,” options that are installed on the printer will be listed. You can manually add or delete options.

3 Paper Source Setting

This feature recognizes the paper size in each paper tray automatically.

❖ *Support tab*

- You can download the latest driver by accessing the Brother Solutions Center.
- You can see the printer driver version.
- You can check the current driver settings.
- You can print the Configuration page, Test page, etc.

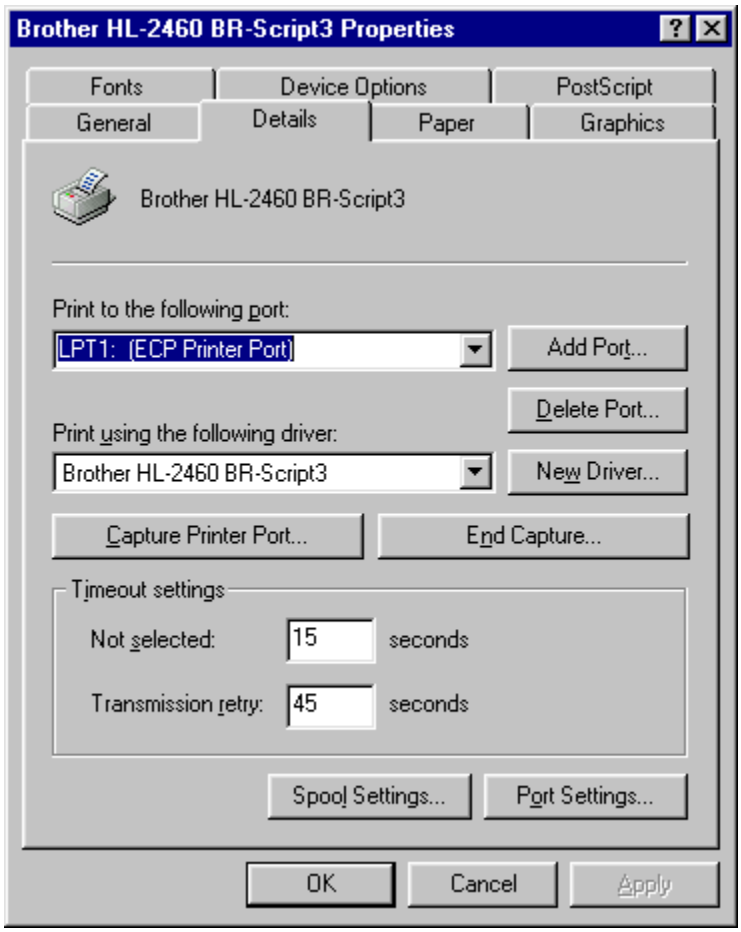


Features in the PS printer driver (only Windows users)

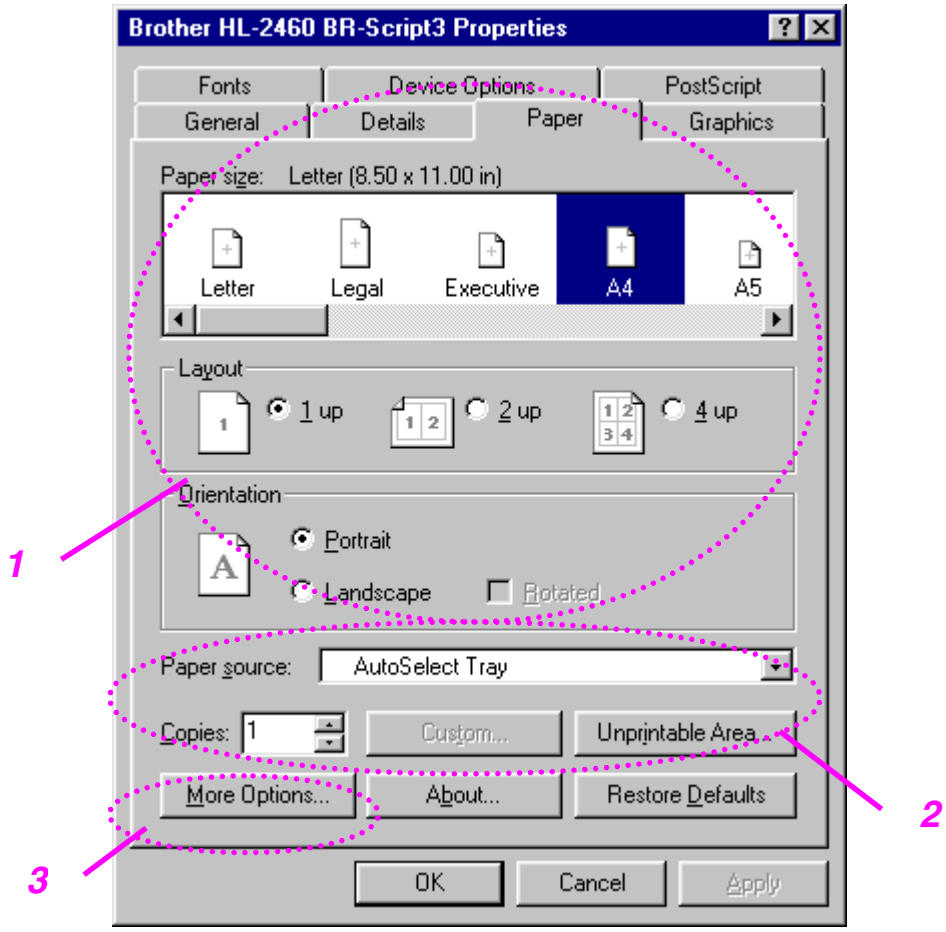
For more information, please see the on-line Help in the printer driver.

❖ Details tab

Select the port where your printer is connected or the path to the network printer you are using.
Select the printer driver that you installed.



❖ Paper tab



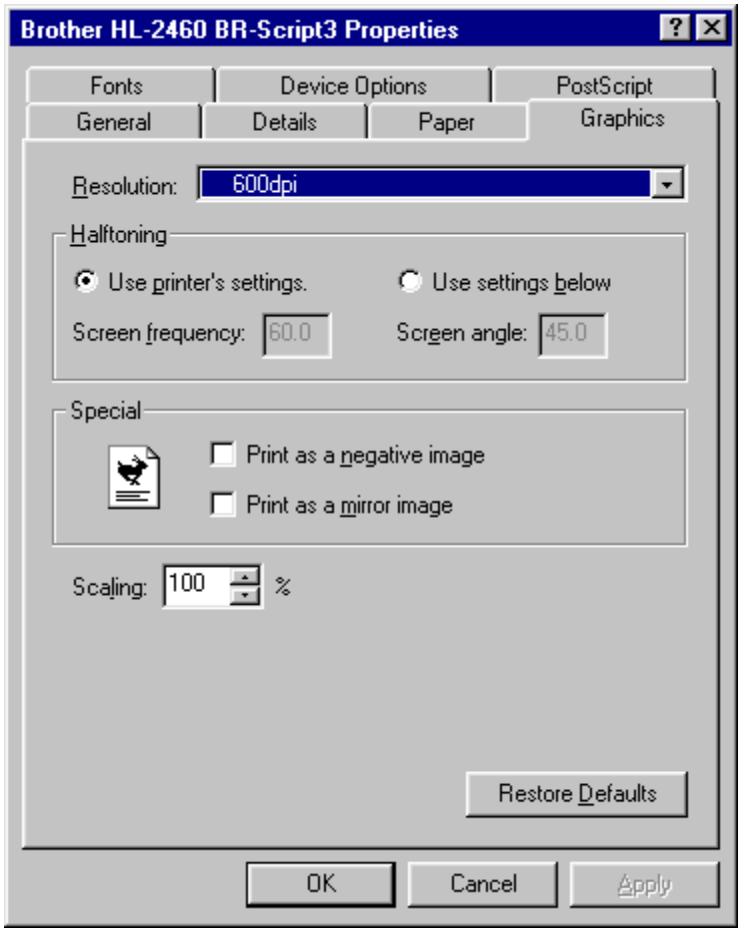
1 Select the Paper size, Multi-page, Orientation, etc.

2 Select the Paper source.

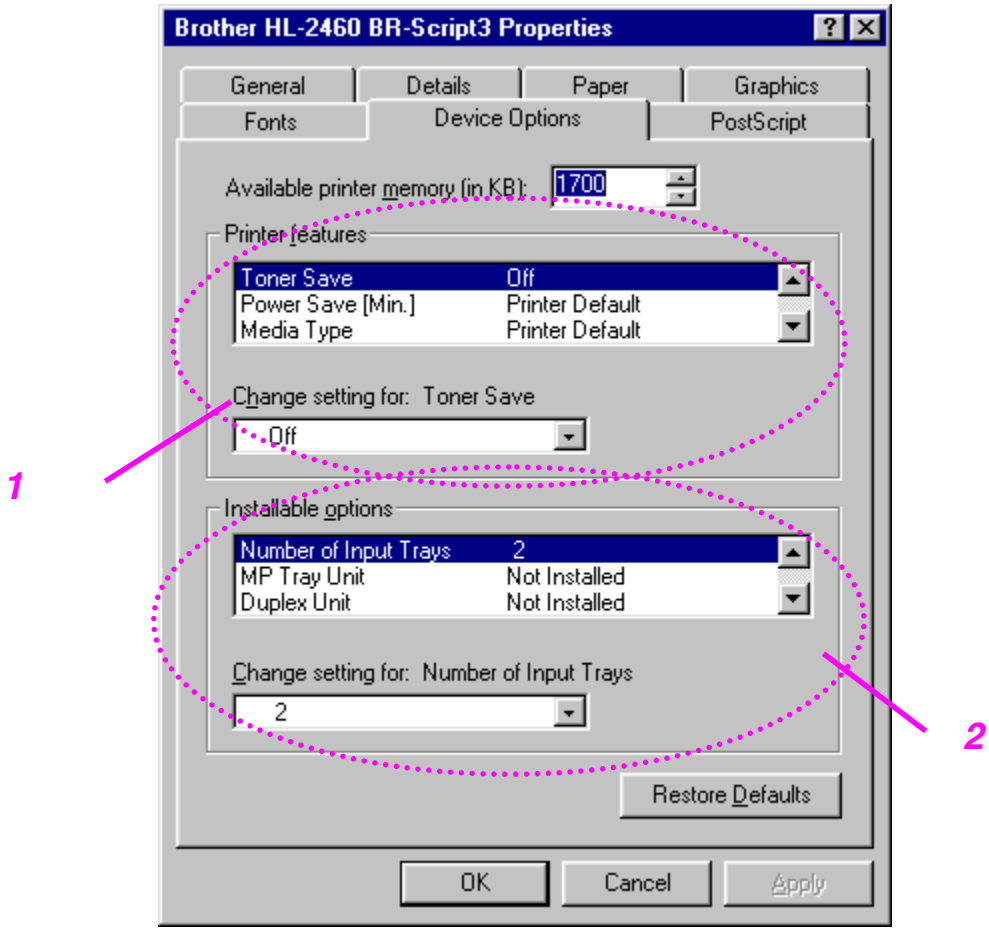
3 When the Duplex unit or Mailbox unit is installed in the printer, add the installed options in the Device Options tab first. Then set the functions for those optional devices by pressing the More Options button.

❖ Graphics tab

Set the print quality, etc.



❖ *Device Options tab*



1 You can change settings by clicking the setting and then selecting a new value in the Change Settings box.

Toner Save Mode
Sleep Mode
Media Type
HRC setting
Collate (only when an HDD or CompactFlash card is installed)
Job spooling

2 Select the installed options from the list.

♦ *Job Spooling*

You can print a document without resending the data or sending the password again (except Secure printing) from your PC because the printer saves data that you specify for reprinting.

For more information, see Chapter 3.

- Secure Print : Print the data with a password
- Public : Save the data without a password
- Proof : Save the data and print it

Features in the bonus software (only Windows users)

♦ Automatic E-mail Printing

Automatic E-mail printing is used to download e-mail automatically, receive mail at the selected time and print it automatically. You can also set this feature to select the mail to be printed automatically depending on the sender and the subject of the e-mail.

Search e-mail by the sender and the subject, and then auto print

As soon as an e-mail is received, the printer prints it automatically without your having to start the print operation. You can also choose the mail you want to print by having the printer search by sender and subject.

Auto access at the selected time

You can check incoming e-mail by accessing the server at the time you set.

Several mail users can share a PC

Usually, it is difficult to share e-mail software on one PC with several people. Brother's Automatic E-mail Printing supports multiple users, so several people can use e-mail software on one PC.

You can keep the current e-mail software.

Even if you use Netscape or Microsoft Internet Mail, you can use Automatic E-mail Printing to get additional functions not supplied in the original e-mail software.

Software for networks

♦ BRAdmin professional

BRAdmin professional is a utility for managing your Brother network enabled printers that are running under Windows 95/98/Me, Windows 2000 and Windows NT 4.0. It allows you to easily configure and check the status of your network-enabled printer.

♦ Storage Manager

Brother Storage Manager software can manipulate the printer forms that you may have stored in a CompactFlash or 2.5” HDD.
You can print a fixed form document at any time by using the control panel. To make a fixed document, you must write Fonts, Macros, or fixed forms to the Storage Device of your printer.

♦ Analysis Tool Software

By adding a HDD or CompactFlash Card to the printer, you can gain cost analysis capability.

Analysis Tool Software is a 32-bit Windows application designed to manage important information about a print job such as the username, job name, number of printed pages, etc. Using this software, you can easily associate printing costs with users or groups of users.

♦ *Network Printer Driver Wizard*

Save time and effort by using the Brother Network Printer Driver Wizard software to automate the installation and configuration of Brother networked printers in a TCP/IP environment.

Use the Wizard to configure the printer TCP/IP settings and specify the Printer driver to be used. The Wizard can then create an Executable file that can be e-mailed to other network users. When run, the Executable file installs the appropriate printer driver and network printing software directly on the remote PC.

To access the Network Printer Driver Wizard, insert the CD-ROM supplied with the printer into the CD-ROM drive, click the Install Software icon, and then select the Network Printer Driver Wizard.

Software for Windows computers

You can install the Software from the supplied CD-ROM as follows:

☛ **1.** Insert the CD-ROM into the CD-ROM drive. The opening screen appears automatically.

If the screen does not appear, click Start and choose Run, and then enter the CD - drive letter and type \START.EXE (for example: D:\START.EXE).

☛ **2.** Select the LANGUAGE, and then follow the on-screen instructions. The printer driver will complete the installation.



Software for Macintosh computer (only via a Network)

This printer supports Mac OS versions 8.51, 8.6, 9.0 and 9.04.

❖ Apple LaserWriter 8 Driver

The Apple LaserWriter Driver may have been installed with your system. It is also available at http://www.apple.com.
LaserWriter 8 version 8.4.3 and 8.7 have been tested for use with the Brother HL-2460.

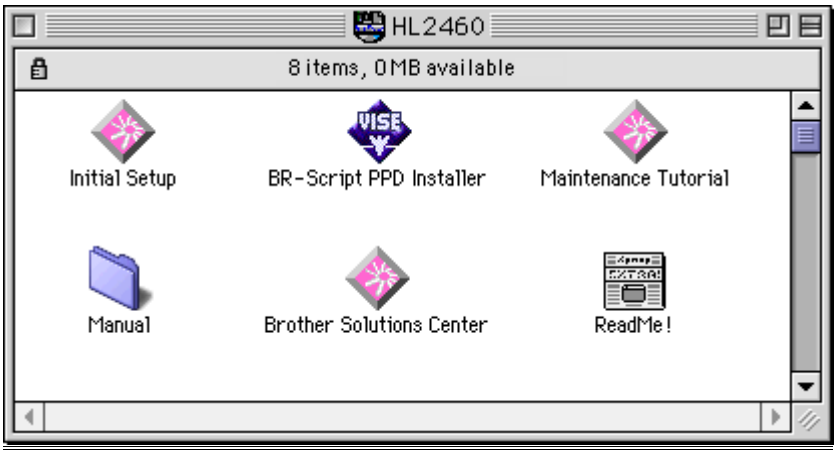
❖ PostScript Printer Description Files (PPDs)

PPDs, in combination with the Apple LaserWriter 8 Driver, access the printer features and allow the computer to communicate with the printer.
An installation program for the PPDs (“BR-Script PPD Installer”) is provided on the CD-ROM.

❖ Installing the printer driver for Macintosh

<For Network users>

☛ **1.** Turn on your Macintosh computer. Insert the CD-ROM into the CD-ROM drive. The following window will appear automatically.



☛ **2.** To install the BR-Script PPD file, click this icon.

☛ **3.** To set up the LaserWriter driver, refer to the Network User's Guide.

Automatic Emulation Selection

This printer has an Automatic emulation selection function. When the printer receives data from the computer, it automatically selects the emulation mode. This function has been factory set to ON.

The printer can select the emulation among the following combinations:

EPSON (default)	***IBM***
HP LaserJet	HP LaserJet
BR-Script 3	BR-Script 3
HP-GL	HP-GL
EPSON FX-850	IBM Proprinter XL

You can select the emulation mode manually in the EMULATION menu in SETUP mode by using the control panel. For more information, see Chapter 3.

Note

When you use the Automatic emulation selection, note the following:

- The EPSON or IBM emulation mode priority must be selected, because the printer cannot distinguish between them. Since the factory setting is the EPSON emulation mode, you might need to select the IBM emulation mode in the EMULATION menu in SETUP mode by using the control panel.
- Try Automatic emulation selection with your application software or network server. If it does not work properly, select the emulation mode manually using either the printer control panel switches or the emulation selection commands from your software.

Automatic Interface Selection

This printer has an Automatic interface selection function. When the printer receives data from the computer, it automatically selects the interface that is appropriate.

When you use the parallel interface, you can turn the high-speed and bi-directional parallel communications on or off in the parallel menu using the control panel in INTERFACE mode. For more information, see Chapter 3. Since the automatic interface selection mode has been factory set to ON, simply connect the interface cable to the printer.

When you use the serial interface, you need to have the same communications settings on both the printer and the computer. Since the automatic interface selection mode has been factory set with certain settings, you may be able to simply connect the interface cable to the printer if your computer has the settings listed below.

Communications parameters	*Factory settings*
Baud rate (data transfer speed)	9600
Code type (data length)	8 bits
Parity (data error check)	None
Stop bit (data separator)	1 stop bit
Xon/Xoff (handshake protocol)	ON
DTR (ER)	ON
Robust Xon	OFF

If a Network board (Brother NC-4100h) has been installed, use the control panel to select NETWORK.

When necessary, use the control panel in the INTERFACE mode to select the interface or the serial communications parameters manually. For more information, see Chapter 3. For the computer settings, see the manual for the computer or software you are using.

Note

When you use the Automatic interface selection, note the following:

- This function takes a few seconds to work. If you want to speed up printing, select the required interface manually in the SELECT menu by using the control panel in the INTERFACE mode.

If you constantly use only one interface, we recommend that you select that interface in the INTERFACE mode. The printer allocates the entire input buffer to that interface when only one interface is selected.

Printer Settings

Factory settings

The printer settings have been set at the factory before shipment. They are called “Factory settings.” Although you can operate the printer with these factory settings unchanged, you can tailor the printer with user settings. Please see “List of Factory settings” in Chapter 3.

Note

Changing the user settings does not affect factory settings. You cannot modify the preset factory settings.

The changed user settings can be restored to the factory default settings with the RESET MENU mode. For more information, see Chapter 3.

CHAPTER 3
CONTROL PANEL

Control Panel



Fig. 3-1

Switches

You can control the basic printer operations and change various printer settings with 7 switches (**Go, Job Cancel**, **Reprint**, **+**, **–**, **Set**, **Back**).

Key	Function
Go	Exit from the control panel menu, Reprint settings and Error messages. Pause/Continue printing.
Job Cancel	Stop and cancel the printer operation in progress.
Reprint	Select the reprint menu. (1-999)
+	Move forward through Menus. Move forward through selectable options.
-	Move backward through Menus. Move backward through selectable options.
Set	Select the control panel menu. Set the selected menus and settings.
Back	Go back one level in the menu structure.

Go switch

The panel indications can be changed from the current status (MENU, ERROR and REPRINT settings) by pressing the **Go** switch once. For ERROR indications, the panel changes only when the error is cleared.

You can PAUSE printing with the **Go** switch. Pressing the **Go** switch again restarts the print job and clears the PAUSE. During PAUSE, the printer is in the off-line state.

Note

If you do not wish to print the remaining data when the printer is in PAUSE, you can cancel the job by pressing the **Job Cancel** switch. Press the **Go** switch to clear the PAUSE and return the printer to the “Ready” state.

Job Cancel switch

You can cancel the processing or printing of data with the **Job Cancel** switch. The display shows JOB CANCELLING until cancelling is completed. After cancelling the job, the printer returns to the READY state.

When the printer is in any state except receiving data or printing, the display shows "NO DATA!!!" and you cannot cancel the job.

Reprint switch

If you want to reprint a document that has just been printed, you can reprint it by pressing the **Reprint** switch. Also, if you have created a document that you wish to share with colleagues, simply spool the document to a non-secure area of the printer. This document can then be re-printed by anyone who is on the network or at the printer control panel.

You can use the reprint function when the printer is READY or in the settings menu.

When you want to print PROOF, PUBLIC or SECURE data, we recommend installing the optional HDD or CompactFlash card.

If you do not install an HDD (See Hard Disk Drive (HD-6G/HD-EX) in Chapter 4) or CompactFlash card (see “CompactFlash Card” in Chapter 4), you can reprint from RAM.
The reprint data in RAM will be deleted when the printer is turned off.

When you use RAM to reprint:

☛ **1.** Press the **Set** switch on the control panel to exit from the READY status and select RAMDISK SIZE in the SETUP mode.

☛ **2.** The default RAM is 0MB. Press the **+** switch to increase the reprint RAM size in increments of 1MB.

Notes

When you increase the RAM size for secure printing, the work area of the printer is decreased and the printer performance will be reduced. Ensure that you reset the RAMSIZE to 0MB when you have finished using secure printing.
When you store the data in RAM, the data will be deleted when the printer power is turned off.

We also recommend adding additional RAM if you want to be able to print a large amount of secure data. (See “RAM Expansion” in Chapter 4)

❖ Reprinting the last JOB

You can reprint the last print job data without sending it from the computer again.

Notes

- When REPRINT is selected off on the panel and you press the **Reprint** switch, the LCD shows "NO DATA STORED" for a short time.
- If you want to cancel reprinting, press the **Job Cancel** switch.
- If the printer does not have enough memory to spool the print job data, it prints the last page only.
- Pressing the **–** or **+** switch makes the number of reprint copies decrease or increase. You can select between COPIES= 1 and COPIES=999.
- For more information about the settings in the printer driver, see "Job Spooling" in Chapter 2.

♦ *Reprint the last JOB 3 times*

☛ **1.** Set the REPRINT function ON with SETUP mode using the control panel.

Notes

If you print using the driver supplied with the printer, the settings for Job Spooling in the printer driver will take priority over the settings made on the Control panel. For more information, see “Job Spooling” in Chapter 2.

☛ **2.** Press the **Reprint** switch.

↓
↓

```
---REPRINT---
COPIES=       1
```

If you wait too long to continue the switch panel operation, the display exits the REPRINT menu automatically.

↓ Press **+** twice.
↓

```
---REPRINT---
COPIES=       3
```

↓ Press **Set** or **Reprint.**
↓

```
PRINTING
```

↓
↓

```
---REPRINT---
COPIES=       1
```

Notes

- If you press the **Go** switch, the printer will exit from the reprint menu.
- If you want to reprint the data and have pressed the **Go** switch, the display shows “PRESS SET TO PRINT”. Press the **Set** switch to start reprinting, or press **Go** to cancel the reprint job.

❖ Printing PROOF data

You can use this function to reprint PROOF data that has just been printed and has no security settings. Documents that are placed in the PROOF area are available to anyone. This function can also be used for a document that will be moved to a public folder at a later date.

When the area to spool data is full, the earliest data is automatically deleted first. The order of deleting data is not connected to the order of reprinting.

When you reprint PROOF data, refer also to "Operations for printing SECURE data" in this chapter.

Notes

- If you have not installed the optional HDD or CompactFlash, the reprint data will be deleted when the printer is turned off.
- If there is data in the job information that cannot be displayed on the LCD, the display shows "?".
- For more information about the settings in the printer driver, see "Job Spooling" in Chapter 2.

❖ *Printing PUBLIC data*

You can use this function to reprint documents stored in a PUBLIC area of the printer memory. Documents here will not be password protected and anyone can access them using the front panel or a web browser. The printer will not print a PUBLIC document when you send it to the printer. You must use the control panel of the printer or connect to the printer through a web browser.

Public data can be deleted using the control panel of the printer or from the web-based management software.

When you reprint PUBLIC data, refer also to “Operations for printing SECURE data” in this chapter.

➽ *Notes*

- If there is data in the job information that cannot be displayed on the LCD, the display shows “?”.
- For more information about the settings in the printer driver, see “Job Spooling” in Chapter 2.

❖ Printing SECURE data

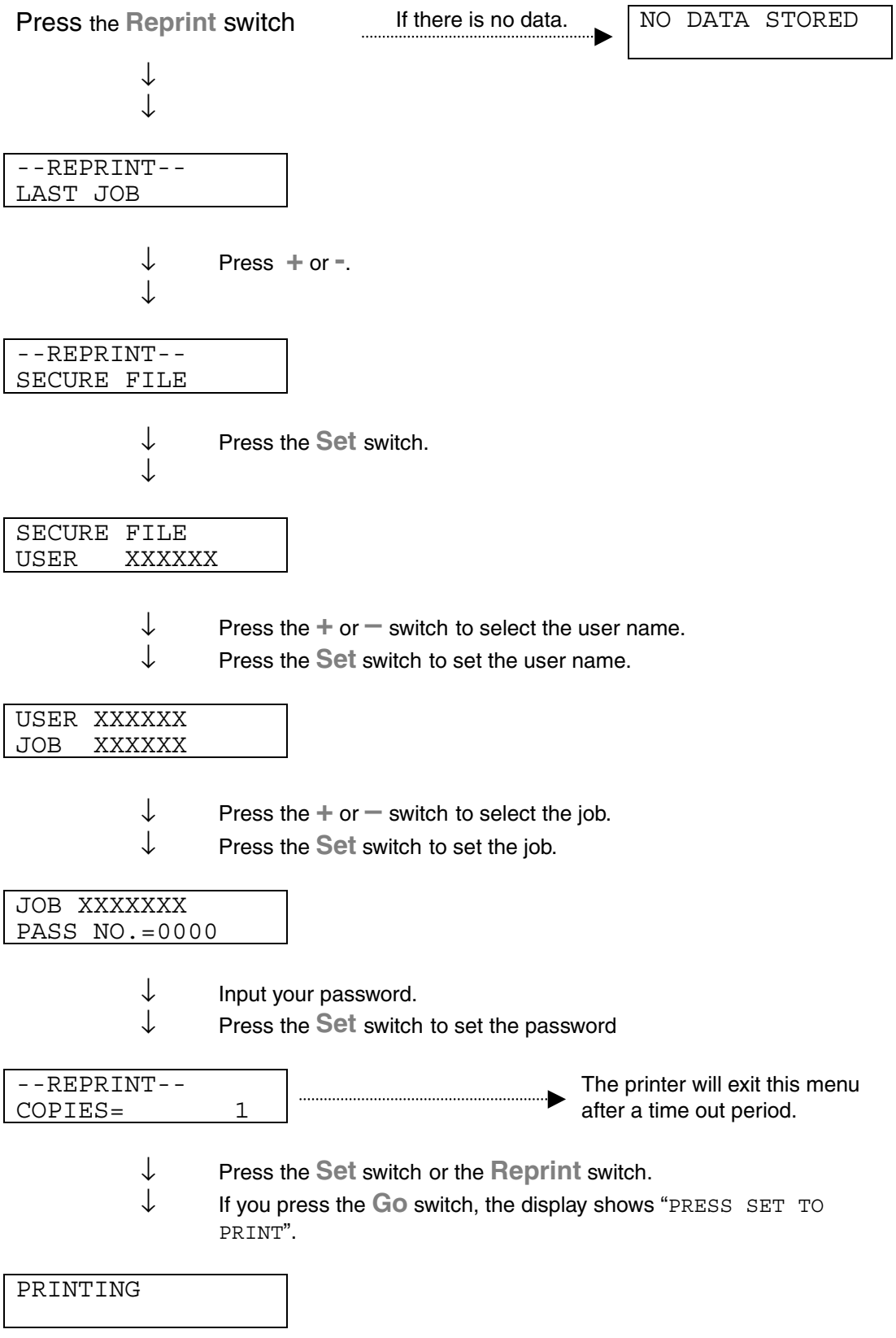
Secure documents are password protected and only those people that know the password will be able to print the document. The printer will not print the document when you send it for printing; to print the document you must use the control panel of the printer (with password) or connect to the printer using a web browser.

If you want to delete the spooled data, you can carry out this operation using the control panel or in the web-based management software.

Notes

- If there is data in the job information that cannot be displayed on the LCD, the display shows “?”.
- For more information about the settings in the printer driver, see “Job Spooling” in Chapter 2.

♦ *Operations for printing SECURE data*



♦ *When there is no reprint data in memory*

If the printer does not have reprint data in the buffer memory and you press the **Reprint** switch, the LCD shows "NO DATA STORED."

♦ *To cancel the reprint job*

Pressing the **Job Cancel** switch allows you to cancel the current reprint job. The **Job Cancel** switch also allows you to cancel a paused reprint job.

+ / – switch

If you press the + or – switch when the printer is the on-line state (READY), it goes off-line and the LCD displays the menu.

❖ To display menus in the current mode

If you press the + or – switch when the printer is the on-line state, it goes off-line and the LCD displays the current mode.

You can enter other menus in the current mode by pressing the + or – switch. Pressing the + or – switch allows you to scroll forward or backward through the menus and settings on the display. Press or keep pressing the switch until you access the desired item.

❖ To set numbers

There are two ways to input numbers. You can press the + or – switch to scroll up or down one number at a time, or you can hold down the + or – switch to scroll faster. When you see the number you want, press the **Set** switch.

Set switch

If you press the **Set** switch when the printer is the on-line state, it goes off-line and the LCD goes to the menu display.

Pressing the **Set** switch allows you to set the selected menu or number. After changing the menu or number, an asterisk appears briefly on the right hand side of the message.

Back switch

If you press the **Back** switch when the printer is the on-line state, it goes off-line and the LCD goes to the menu display.

Pressing the **Back** switch allows you to return to the previous level from the current menu level.
The **Back** switch also allows you to select the previous digit while inputting numbers.
When the leftmost digit is selected, the **Back** switch allows you to go up one level in the menu.
When a menu or number without an asterisk (**Set** switch not pressed) is selected, the **Back** switch allows you to return to the previous menu level with the original setting unchanged.

Note

When you press the **Set** switch to select a setting, an asterisk appears briefly at the end of the display. Since the asterisk indicates the selection, you can easily find the current settings as you scroll through the display.

LED

The lamp light or blink to indicate the current printer status.

❖ DATA - Orange LED

LED indication	Meaning
On	Data remains in the printer buffer.
Blinking	Receiving or processing data
Off	No remaining data

LCD Display

The display shows the current printer status. When you use the control panel switches, the display will change.

If you take the printer off-line, the display changes to show the selected emulation.

If any problems occur, the display shows the corresponding error message, maintenance message, or call service message to prompt you to take an action. For more information about these messages, see “TROUBLESHOOTING,” Chapter 6.

Back light

Light indication	Meaning
Off	The printer is off-line or in sleep status.
Green (General)	Ready to print Printing Warming Up
Red (Error)	Some problem has occurred at the printer.
Orange (Setting)	Selecting Menu Setting reprint times Pause

LCD message

You can choose the messages that display on the second line of the LCD message as shown below.

Choose NONE/PAGE/JOB in the LOWER LCD menu of the SETUP mode.

```
READY
```

```
READY
JOB NAME
```

```
READY
PAGE = XXXX
```

❖ Printer Status messages

The following table shows the printer status messages that are displayed during normal operation:

Printer Status Message	Meaning
READY	Ready to print.
PROCESSING	Busy processing data.
SLEEP	In sleep status
PRINTING	Printing.
PROGRAMING-WAIT	Accessing CompactFlash card or HDD.
SELF TEST	Performing self-diagnostics.
PAUSE	The printer has suspended feeding forms. Pressing the Go switch resumes form feed.
NOW INITIALIZING	The printer is setting up.
WARMING UP	The printer is warming up.
MEMORY SIZE=XX MB	This printer has XX MB memory.
JOB CANCELLING	Cancelling the job.
RESOLUTION ADAPT	Printing with reduced resolution.
PRESS SET TO PRINT	Press the Set switch to start printing.
RESET TO FACTORY SETTING	The printer setting returns to the factory setting.
FAX SENDING	Sending fax data (Fax function: see Brother Solutions Center: http://solutions.brother.com)
FAX RECEIVING	Receiving fax data (Fax function: see Brother Solutions Center: http://solutions.brother.com)

How to use the Control panel

When you operate the **Menu** switches (**+, –, Set** or **Back**), remember the following basic steps:

- If no control panel operations are performed for 30 seconds, the LCD automatically returns to READY.

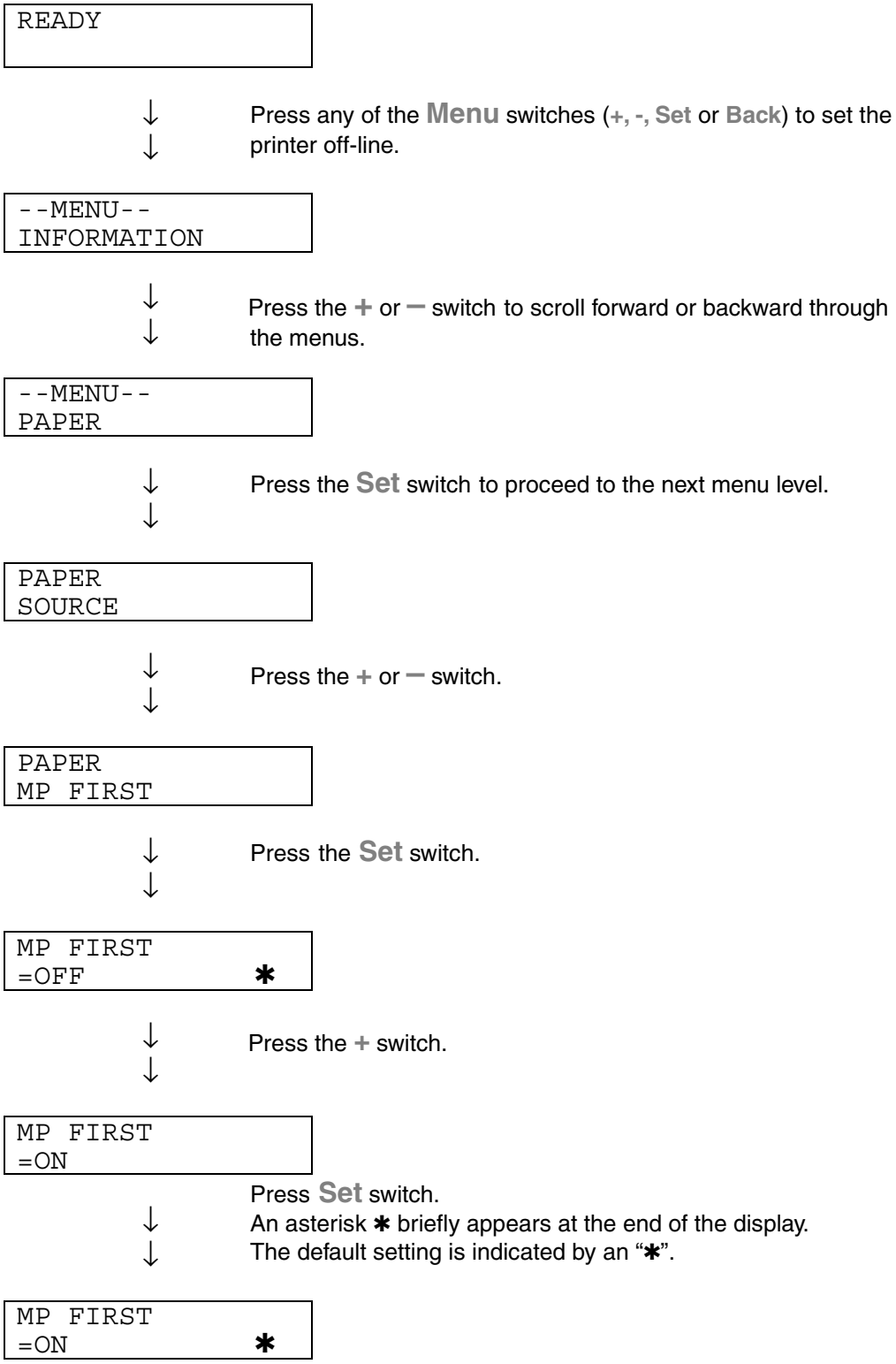
- When you press the **Set** switch to select a setting, an asterisk appears at the end of the display for short time. After that, the display returns to the previous menu level.

- After changing the status or a setting, pressing the **Back** switch before you press the **Set** switch will cause the display to return to the next previous menu level with the original settings unchanged.

- When you input numbers, you can do it by scrolling through the available setting range or by setting digits one at a time. When setting digits one at a time, the blinking digit is the changeable digit.

♦ *For example: When you want to turn the MP FIRST setting ON*

Choose this setting to load paper from the Multi-purpose tray first.



Panel setting menu

Note

The LCD panel descriptions for the Paper trays are as follows.

Upper paper tray	Tray 1
Multi-purpose tray	MP tray
Optional Lower tray	Tray 2/3/4
Optional Duplex unit for Duplex printing	DX
Optional Mailbox unit	MX

There are 8 modes. For more information about the selections available for each mode, refer to the pages listed below.

- ***INFORMATION***
  For more information, see 3-25
- ***PAPER***
  For more information, see 3-26
- ***QUALITY***
  For more information, see 3-26
- ***SETUP***
  For more information, see 3-27
- ***PRINT MENU***
  For more information, see 3-29
- ***NETWORK***
  For more information, see 3-34
- ***INTERFACE***
  For more information, see 3-35
- ***RESET MENU***
  For more information, see 3-37

❖ INFORMATION

Display Shows	Description		
PRINT SETTINGS	Print the Configuration page.		
PRINT TEST	Print the test page.		
PRINT DEMO	Print the demonstration.		
PRINT FILE LIST	Print the card list.		
PRINT FONTS	Print the font list and samples.		
PRINT FAX LOG	Print the fax log file.		
VERSION	**Sub-Setting Menu**	**Description**	
	SER.NO=#########	Printer serial number.	
	ROM VER=####	ROM firmware version	
	ROM DATE##/##/##	ROM date	
	NET VER=####	Network firmware version (only Network users)	
	NET DATE##/##/##	Network Build date (only Network users)	
	RAM SIZE=###MB	The size of memory in this printer.	
MAINTENANCE	PAGE COUNTER	=######	The current total printed pages.
	REMAIN PF KIT 1	=######	
	REMAIN PF KIT 2	=######	
	REMAIN PF KIT 3	=######	
	REMAIN PF KIT 4	=######	
	REMAIN FUSER	=######	
	REMAIN LASER	=######	
	REMAIN TRANSFER	=######	
	CLEANING PAGE	Print the Cleaning page to clean the Thermistor.	

❖ PAPER

Display Shows	Description
SOURCE	=AUTO/MP TRAY/TRAY 1/TRAY 2/TRAY 3/TRAY 4
MP FIRST	=OFF/ON Feed paper from the MP tray as priority.
MP SIZE	=A4/LETTER/LEGAL/…. Select the size of paper you loaded in the MP tray. A4/Letter/ Legal/...
MANUAL FEED	=OFF/ON
DUPLEX	=OFF/ON(LONG BIND)/ON(SHORT BIND)
OUTPUT	=STANDARD/MAILBOX1-10/MX STACK/ MX SORT

❖ QUALITY

Display Shows	Description
RESOLUTION	=300/600/HQ1200 You can choose a print resolution of 300, 600 or HQ1200.
HRC	=OFF/LIGHT/MEDIUM/DARK HRC: High Resolution Control offers improved print quality of characters and graphics that conventional laser printers cannot attain with a resolution of 300 or 600 dpi.
TONER SAVE	=OFF/ON
DENSITY	=-2:0:2 Increase or decrease the print density.

❖ SETUP

Display Shows	Description	
LANGUAGE	= ENGLISH /FRANÇAIS /…	
LOWER LCD	=NONE/PAGE COUNTER/JOB NAME	
LCD DENSITY	=0/1/2	
POWER SAVE TIME	=1MIN:99MIN	
TONER LOW	=CONTINUE/STOP CONT: Continue printing even if a "TONER EMPTY" error occurs. STOP: Stop printing if the "TONER EMPTY" error occurs.	
AUTO CONTINUE	=OFF/ON	
LOCK PANEL	=OFF/ON Turn on/off the lock panel function.	
	PASS NO.=###	
REPRINT	=ON/OFF	
PAGE PROTECTION	PROTECT = AUTO	AUTO, OFF, LETTER, A4 OR LEGAL
EMULATION	=AUTO(EPSON)/AUTO(IBM)/HP LASER JET/….	
KEEP PCL	=OFF/ON	
RAMDISK SIZE	=0/1/2/…MB	RESTART?

❖ SETUP (continued)

Display Shows	Description	
DELETE STORAGE	Delete the data in CompactFlash card or HDD.	
	Sub-Setting Menu	**Description**
	SECURE FILE	Select the User name, Job name and password.
	PUBLIC FILE	Select the User name and Job name.
	PROOF FILE	Select the User name and Job name.
	DATA ID (HD)	=####
	DATA ID (CF)	=####
	MACRO ID (HD)	=####
	MACRO ID (CF)	=####
	FONT ID (HD)	=####
	FONT ID (CF)	=####
	FORMAT ID (HD)	OK?
	FORMAT ID (CF)	OK?
TIME STYLE	=YY /MM /DD or MM /DD /YY or DD /MM /YY	
DATE & TIME	DISPLAY	YYYY/MM/DD HH/MM
	YEAR	=####
	MONTH	=##
	DAY	=##
	HOUR	=##
	MINUTE	=##

❖ PRINT MENU

Display Shows	Description	
MEDIA TYPE	=PLAIN PAPER/TRANSPARENCIES/THICK PAPER/THICKER PAPER/ BOND PAPER/ENVELOPES	
PAPER	Set cut sheet paper size to LETTER, LEGAL, A4, A5, A6, B5, B6, EXECUTIVE, COM10, MONARCH, C5 and DL	
COPIES	You can check the total number of printed pages.	
	Shows the number of printed pages. (1:999)	
ORIENTATION	This printer can print pages in portrait or landscape orientation.	
	PORTRAIT or LANDSCAPE	
PRINT POSITION	This printer can be adjusted to align the page format.	
	Sub-Setting Menu	**Description**
	X OFFSET=0	=-500:+500 Move the print start position (at the upper left corner of pages) horizontally up to –500 (left) to +500 (right) dots in 300 dpi..
	Y OFFSET=0	=-500:+500 Move the print start position (at the upper left corner of pages) vertically up to –500 (up) to +500 (down) dots in 300 dpi.
AUTO FF TIME	=OFF/1:99 (sec) Allows you to print the remaining data without pressing the Go switch.	
FF SUPPRESS	=OFF/ON Turns the form feed suppress function ON/OFF.	

❖ PRINT MENU (continued)

Display Shows	Description	
HP LASERJET	FONT NO.	=I0000:#####
	FONT PITCH/POINT	=###.##
	SYMBOL SET	PC-8/… Set the symbol set or the character set.
	TABLE PRINT	Print code table.
	AUTO LF	=OFF/ON ON: CR→CR+LF, OFF: CR→CR
	AUTO CR	=OFF/ON ON: LF→LF+CR, FF+CR, or VT→VT+CR OFF: LF→LF, FF→FF, or VT→VT
	AUTO WRAP	=OFF/ON line feed and carriage return occur when the printer reaches the right margin.
	AUTO SKIP	=ON/OFF line feed and carriage return occur when the printer position reaches the bottom margin.
	LEFT MARGIN	=#### Set the left margin at column 0 to 126 columns at 10 cpi.
	RIGHT MARGIN	=#### Set the right margin at column 10 to 136 columns at 10 cpi.
	TOP MARGIN	=#### Set the top margin at a distance from the top edge of the paper: 0, 0.33, 0.5, 1.0, 1.5 or 2.0” Factory setting=0.5
	BOTTOM MARGIN	=#### Set the bottom margin at a distance from the bottom edge of the paper: 0, 0.33, 0.5, 1.0, 1.5 or 2.0” Factory setting: 0.33(None-HP), 0.5(HP)
	LINES	=#### Set the number of lines per page from 5 to 128 lines.

❖ PRINT MENU (continued)

Display Shows	Description	
EPSON FX-850	FONT NO.	=I0000:#####
	FONT PITCH/POINT	=###.##
	CHARACTER SET	PC-8/… Set the symbol set or the character set.
	TABLE PRINT	Print code table.
	AUTO LF	=OFF/ON ON: CR→CR+LF OFF: CR→CR
	AUTO MASK	=OFF/ON
	LEFT MARGIN	Set the left margin at column 0 to 126 columns at 10 cpi.
	RIGHT MARGIN	Set the right margin at column 10 to 136 columns at 10 cpi.
	TOP MARGIN	Set the top margin at a distance from the top edge of the paper: 0, 0.33, 0.5, 1.0, 1.5 or 2.0” Factory setting=0.33
	BOTTOM MARGIN	Set the bottom margin at a distance from the bottom edge of the paper: 0, 0.33, 0.5, 1.0, 1.5 or 2.0” Factory setting=0.33
	LINES	Set the number of lines per page from 5 to 128 lines.

❖ PRINT MENU (continued)

Display Shows	Description	
IBM PROPRINTER	FONT NO.	=I0000:#####
	FONT PITCH/POINT	=###.##
	CHARACTER SET	PC-8/… Set the symbol set and the character set.
	TABLE PRINT	Print code table.
	AUTO LF	=OFF/ON ON: CR→CR+LF, OFF: CR→CR
	AUTO CR	=OFF/ON
	AUTO MASK	=OFF/ON
	LEFT MARGIN	Set the left margin at column 0 to 126 columns at 10 cpi.
	RIGHT MARGIN	Set the right margin at column 10 to 136 columns at 10 cpi.
	TOP MARGIN	Set the top margin at a distance from the top edge of the paper: 0, 0.33, 0.5, 1.0, 1.5 or 2.0” Factory setting=0.33
	BOTTOM MARGIN	Set the bottom margin at a distance from the bottom edge of the paper: 0, 0.33, 0.5, 1.0, 1.5 or 2.0” Factory setting: 0.33
	LINES	Set the number of lines per page from 5 to 128 lines.

❖ PRINT MENU (continued)

Display Shows	Description	
HP-GL	CHAR SET(STD)	=####
	CHAR SET(ALT)	=####
	PEN # SIZE	PEN1 to 6 (Set size and gray percentage for the selected pen.)
	PEN # GRAY	PEN1 to 6 15, 30, 45, 75, 90 or 100 % (# is the selected pen number)
BR-SCRIPT	ERROR PRINT	=OFF/ON
	APT	=OFF/ON APT: Advanced Photoscale Technology offers photographic fine grayscale on graphics. APT setting is available only at 600 dpi.

❖ *NETWORK (only Network users)*

Display Shows	Description	
TCP/IP	**Sub-Setting Menu**	**Description**
	TCP/IP ENABLE	=ON/OFF
	IP ADDRESS=	###.###.###.###
	SUBNET MASK=	###.###.###.###
	GATEWAY=	###.###.###.###
	IP BOOT TRIES	=#
	IP METHOD	=AUTO/STATIC/RARP/BOOTP/DHCP
NETWARE	NETWARE ENABLE	=ON/OFF
	NET FRAME	=AUTO/8023/ENET/8022/SNAP
APPLETALK	=ON/OFF	
NETBEUI	=ON/OFF	
DLC/LLC	=ON/OFF	
BANYAN	=ON/OFF	
LAT	=ON/OFF	
NETBIOS/IP	=ON/OFF	
ENET	=AUTO/100B-FD/100B-HD/10B-FD/10B-HD	

❖ INTERFACE

Display Shows	Description	
SELECT	=AUTO/PARALLEL/RS232C/USB/NETWORK	
AUTO IF TIME	= 1:99 (sec) You need to set the time out period for the auto interface selection.	
INPUT BUFFER	= Level1:15 Increase or decrease the input buffer capacity.	RESTART PRINTER?
PARALLEL	When using the parallel interface	
	Sub-setting Menu	**Description**
	HIGH SPEED	=ON/OFF Turns high-speed parallel communications ON/OFF.
	BI-DIR	=ON/OFF Turns bi-directional parallel communications ON/OFF.

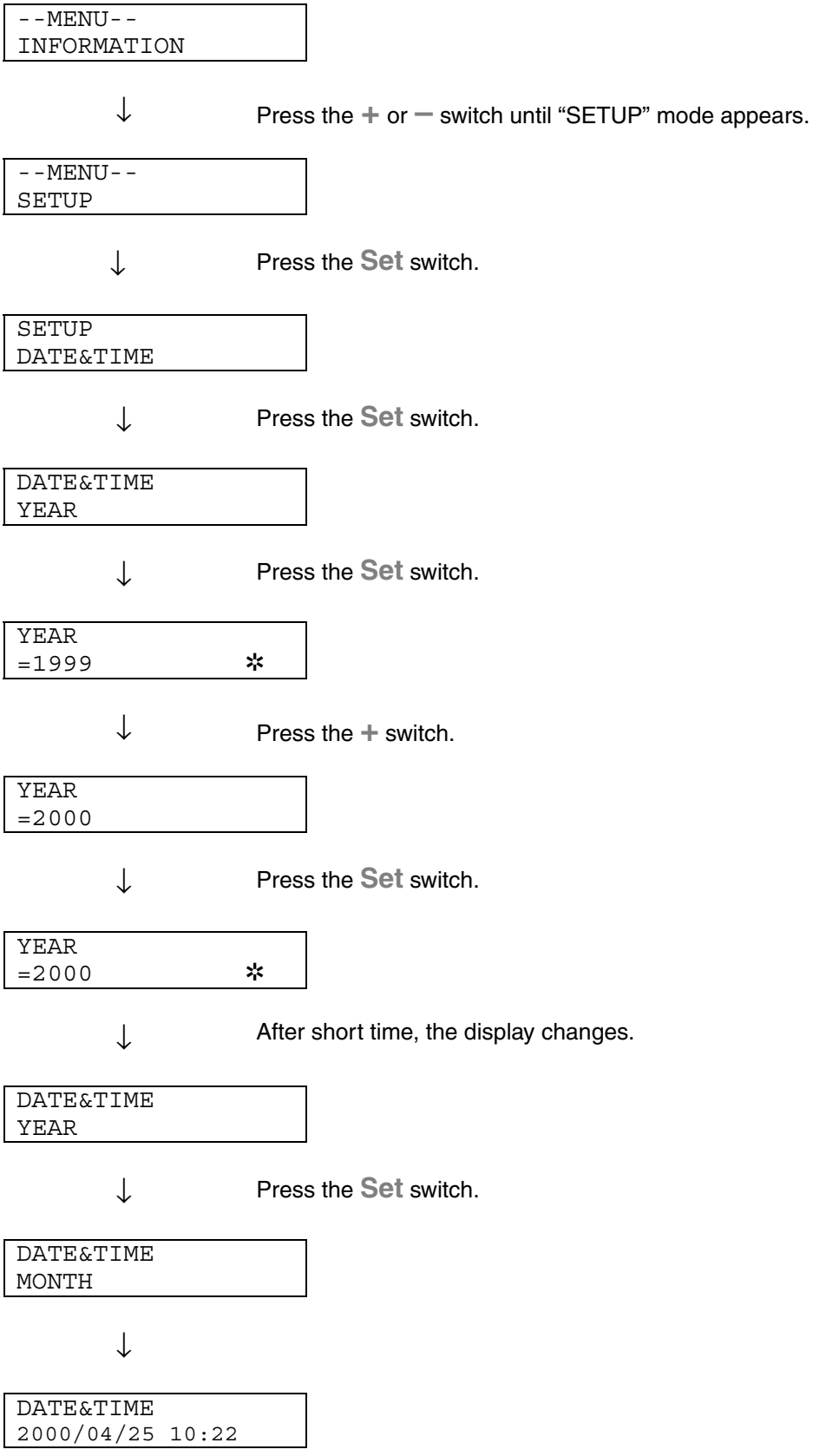
❖ *INTERFACE (continued)*

Display Shows	Description		
RS-232C	When using the serial interface		
	Sub-setting Menu	**Description**	
	FAX MODE	=OFF/ON	RESTART PRINTER?
	BAUDRATE	Data transfer speed can be set to 150/300/600/1200/2400/4800/9600/19200/38400/57600/15200 baud.	
	CODETYPE	=8 BITS/7 BITS Data length can be set to 7 or 8 bits.	
	PARITY	=NONE/ODD/EVEN Data error check can be set to NONE, ODD or EVEN.	
	STOP BIT	=1 BITS/2 BITS Data separator can be set to 1 or 2 stop bits.	
	XON/XOFF	=ON/OFF Handshake protocol can be set to ON/OFF.	
	DTR(ER)	=ON/OFF	
	ROBUST XON	=OFF/ON	
	RING DELAY	=0/1/2/3/4	
	REDUCTION	=AUTO/OFF/90%	
	RAM SIZE	=1:##MBYTE	
	RECEIVE	=ON/OFF	
	INTERVAL	=OFF/1H/….7D	

❖ RESET MENU

Display Shows	Description
RESET PRINTER	Resets the printer and restores all printer settings – including command settings – to settings you have previously made with the control panel switches.
FACTORY RESET	Resets the printer and restores all printer settings – including command settings – to the factory settings. See “List of Factory Settings”.

❖ *Set date and time*



❖ Set IP Address

```
--MENU--
INFORMATION
```

↓ Press the + switch.

```
--MENU--
NETWORK
```

↓ Press the Set switch.

```
NETWORK
TCP/IP
```

↓ Press the Set switch.

```
TCP/IP
TCP/IP ENABLE
```

↓ Press the + switch.

```
TCP/IP
IP ADDRESS=
```

↓ Press the Set switch.

```
IP ADDRESS=
192.0.0.192      ✲
```

↓ The last digit in the first part of the number is blinking.
Press the + or – switch to increase or decrease the number.
Press the Set switch to go to next digit.

```
IP ADDRESS=
123.0.0.192
```

↓ Repeat this process until you have set your IP address.

```
IP ADDRESS=
123.45.67.89
```

↓ Press the Set switch to complete the IP address.

```
IP ADDRESS=
123.45.67.89     ✲
```

An asterisk appears at the end of the display.

❖ About Emulation Modes

This printer has the following emulation modes:

♦ HP LaserJet Mode

The HP LaserJet mode (or HP mode) is the emulation mode in which this printer emulates the Hewlett-Packard LaserJet laser printer. Many software applications support this type of laser printer. Using this mode will allow your printer to operate at its optimum performance with those applications.

♦ BR-Script 3 Mode

BR-Script is an original Brother page description language and a PostScript® language emulation interpreter. This printer supports level 3. The BR-Script interpreter of this printer enables full and satisfactory control of text and graphics on pages.

For technical information about PostScript commands, see the following commercial manuals:

- Adobe Systems Incorporated. *PostScript Language Reference Manual, 3rd Edition.* Menlo Park: Addison-Wesley Publishing Company, Inc., 1999.
- Adobe Systems Incorporated. *PostScript Language Program Design.* Menlo Park: Addison-Wesley Publishing Company, Inc., 1988.
- Adobe Systems Incorporated. *PostScript Language Reference Manual.* Menlo Park: Addison-Wesley Publishing Company, Inc., 1985.
- Adobe Systems Incorporated. *PostScript Language Tutorial and Cookbook.* Menlo Park: Addison-Wesley Publishing Company, Inc., 1985.
- Adobe Systems Incorporated. PostScript Language Reference Manual, third Edition. Addison-Wesley Longman, Inc., 1999.

♦ *HP-GL Mode*

The HP-GL mode is the emulation mode in which this printer emulates the Hewlett-Packard plotter model HP-7475A. Many graphics and CAD applications support this type of plotter. Use this mode for optimum performance when printing from those types of applications.

♦ *EPSON FX-850 and IBM Proprinter XL Mode*

The EPSON FX-850 and IBM Proprinter XL modes are the emulation modes that this printer emulates to meet the industry-standard for dot matrix printers of their respective manufacturers. Some applications support these dot matrix printer emulations. Use these emulation modes for optimum performance when printing from those types of applications.

.

❖ List of Factory settings

The following table shows the initial factory default settings.

Notes

- The settings are subject to the emulation mode. Effective modes are indicated in parentheses in the following table.
- The following settings cannot be restored to the factory settings with the RESET menu in the FACTORY SETTINGS mode: INTERFACE MODE, HRC SETTING, PAGE PROTECTION, SCALABLE FONT, LOCK PANEL, PAGE COUNTER and local language for display messages.
- The COPY setting is always restored to the factory setting when the printer is turned off and on again.
- It is not possible to reset the NETWORK settings using the control panel. If you want to reset the print server to its default factory settings (resetting all information such as the password and IP address information), hold down the Network Test button on the Network board (NC-4100h) for more than 5 seconds.

MODE	MENU	Factory Setting
PAPER	SOURCE	=AUTO
	MP FIRST	=OFF
	MP SIZE	=A4/LETTER
	MANUAL FEED	=OFF
	DUPLEX	=OFF
	OUTPUT	=STANDARD
QUALITY	RESOLUTION	=600
	HRC	=MEDIUM
	TONER SAVE	=OFF
	DENSITY	0

MODE	MENU	Factory Setting
SETUP	LANGUAGE	=ENGLISH
	LOWER LCD	=OFF
	LCD Density	=0
	POWER SAVE TIME	=30MIN
	TONER LOW	CONTINUE
	AUTO CONTINUE	=OFF
	LOCK PANEL	=OFF
	REPRINT	=ON
	PAGE PROTECTION	=AUTO
	EMULATION	=AUTO(EPSON)
	KEEP PCL	=OFF
	RAMDISK SIZE	=#MB
	TIME STYLE	=YY/MM/DD hh:mm
PRINT MENU	MEDIA TYPE	=PLAIN PAPER
	PAPER	=A4/LETTER
	COPIES	=1
	ORIENTATION	=PORTRAIT
	PRINT POSITION	X OFF SET=0 Y OFFSET=0
	AUTO FF TIME	=5
	FF SUPPRESS	=OFF
	HP LASERJET	FONT NO.=59
		FONT PITCH/POINT=10.00/12.00
		SYMBOL/CHARACTER SET=PC8
		AUTO LF=OFF
		AUTO CR=OFF
		AUTO WRAP=OFF
		AUTO SKIP=ON

MODE	MENU	Factory Setting
PRINT MENU (continued)	HP LASERJET (continued)	LEFT MARGIN=####
		RIGHT MARGIN=####
		TOP MARGIN=####
		BOTTOM MARGIN=####
		LINES=####
	EPSON FX-850	FONT NO.=####
		FONT PITCH/POINT=10.00/12.00
		SYMBOL/CHARACTER SET=US ASCIF
		AUTO LF=OFF
		AUTO MASK=OFF
		LEFT MARGIN=####
		RIGHT MARGIN=####
		TOP MARGIN=####
		BOTTOM MARGIN=####
		LINES=####
	IBM PROPRINTER	FONT NO.=####
		FONT PITCH/POINT=10.00/12.00
		SYMBOL/CHARACTER SET=PC8
		AUTO LF=OFF
		AUTO CR=OFF
		LEFT MARGIN=####
		RIGHT MARGIN=####
		TOP MARGIN=####
		BOTTOM MARGIN=####
		LINES=####
	HP-GL	CHAR SET(STD)=####
		CHAR SET(ALT)=####
		PEN # SIZE
		PEN # GRAY
	BR-SCRIPT	ERROR PRINT=OFF
		APT=OFF

MODE	MENU	Factory Setting
NETWORK	TCP/IP	TCP/IP ENABLE=ON
		IP METHOD=AUTO
		IP ADDRESS=192.0.0.192
		SUBNET MASK=0.0.0.0
		GATEWAY=0.0.0.0
		IP BOOT TRIES=3
		IP METHOD=AUTO
	NETWARE	NETWARE ENABLE=ON
		NEE FRAME=AUTO
	APPLETALK	=ON
	NETBEUI	=ON
	DLC/LLC	=ON
	BANYAN	=ON
	LAT	=ON
	NETBIOS/IP	=ON
	ENET	=AUTO
INTERFACE	SELECT	=AUTO
	AUTO IF TIME	=5
	INPUT BUFFER	=LEVEL 3
	PARALLEL	HIGH SPEED=ON
		BI-DIR=ON
	RS-232C	FAX MODE=OFF
		BAUD RATE=9600
		CODE TYPE=8 BITS
		PARITY=NONE
		STOP BIT=1 BITS
		X ON/X OFF=ON
		DTR(ER)=ON
		ROBUST XON=OFF

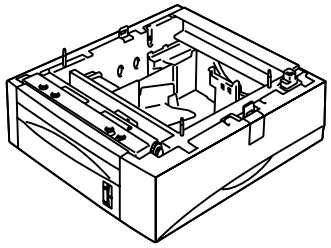
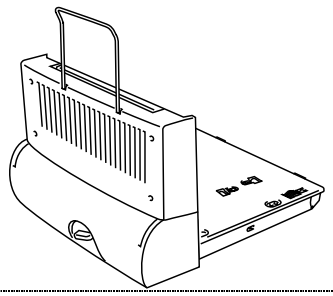
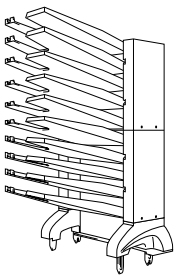
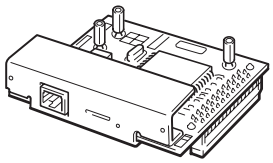
MODE	MENU	Factory Setting
INTERFACE (continued)	RS-232C (continued)	RING DELAY=0
		REDUCTION=AUTO
		RAM SIZE=1MB
		RECEIVE=ON
		INTERVAL=OFF

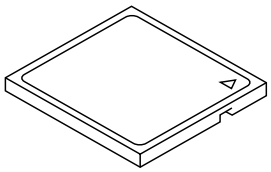
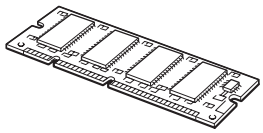
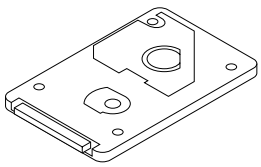
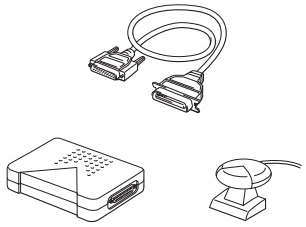
CHAPTER 4
OPTIONS

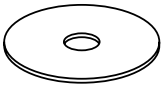
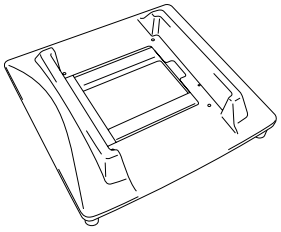
Optional Accessories and Supplies

This printer has the following optional accessories.You can increase the capabilities of the printer with these items.

♦ Options

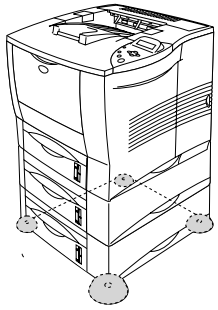
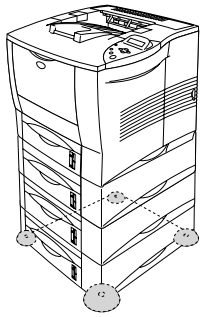
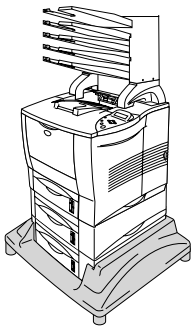
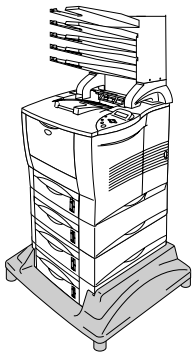
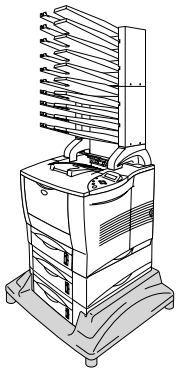
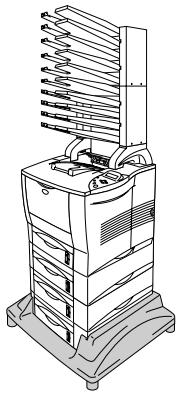
Lower tray unit (3 paper cassettes)	Duplex unit	Mailbox unit	Network board
LT-4000	DX-4000	MX-4000 series	NC-4100h
			
See 4-3	See 4-4	See 4-5	See 4-7

CompactFlash card	DIMM memory	HDD	Ir-DA interface
		HD-6G/HD-EX	IR-1000
			
See 4-10	See 4-12	See 4-16	See 4-20

Optional font package	Optional stabilizer
BS-3000	SB-4000
	
See 4-21	See 4-2

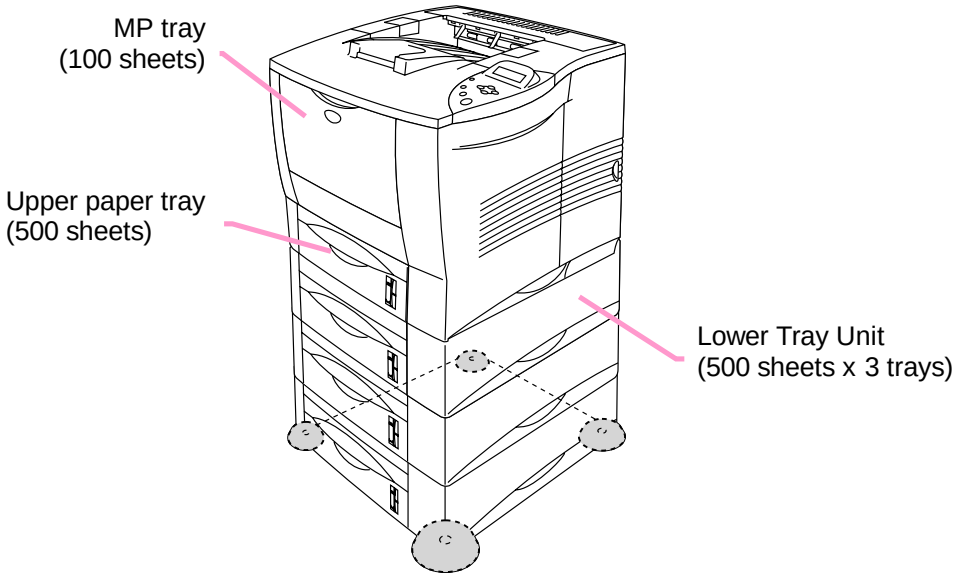
Small pad for Lower tray unit and Stabilizer (SB-4000)

You must install the small pad or the optional stabilizer (SB-4000) when you have the following printer configurations.

	1 Lower tray	***2 Lower trays***	***3 Lower trays***
Non Mailbox unit	----------		
Mailbox unit (5 bins)	----------		
Mailbox unit (10 bins)	----------		

Lower Tray Unit (LT-4000)

The lower tray unit (Tray 2/3/4) is a device that functions as an optional paper source. It can hold a maximum of 500 sheets of paper (80 g/m^2 or 20 lb.) in each tray. When all 3 trays are installed in the printer, the paper capacity expands to a total of 2100 sheets of plain paper. To purchase the optional lower tray unit, consult the dealer where you purchased the printer.



Expands up to a total of 2100 sheets

Fig. 4-1

To install the lower tray unit, please see the LowerTray User's Guide.

Note

- When you place the lower tray unit on the floor, we recommend installing the supplied small pad into the lower tray unit as show above.
- If somebody moves the cassette into another tray position and even if you print the data without knowing this has been done, the driver automatically selects the correct tray and prints according to this setting.

Duplex Unit (DX-4000)

The Duplex unit is an optional device that allows printing on both sides of pages. When it is installed, you can select either duplex printing or simplex printing from the control panel or with a software command as follows. For more information about the control panel, seePAPER mode in Chapter 3.

To install the duplex unit, please see the Duplex Unit User's Guide.

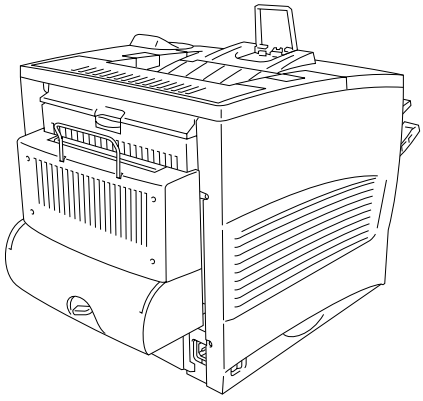


Fig. 4-2

Mailbox Unit

The Mailbox unit is an optional device that is installed on the HL-2460 laser printer to allow you to direct your printouts to any bin that you specify.

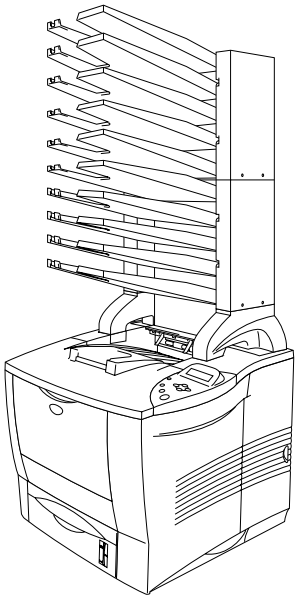


Fig. 4-3

Please see the Mailbox User's Guide to install the Mailbox unit.

- ***Mailbox***

  This setting allows you to direct your printouts to any bin that you specify.

- ***Sorter***

  When you want to print multiple copies, you can print each copy to the bin you select. You will not need to sort the copies after printing them.

- ***Stacker***

  You can print large print jobs when no one is in the office. You can print 100 sheets of plain paper to each bin of the mailbox. When you remove bins #2, 4, 7, 9, the total output capacity is 1900 sheets (including the printer output tray).

Network Option (NC-4100h)

Installing the Brother network board (NC-4100h) enables you to use the printer in the TCP/IP, IPX/SPX, AppleTalk, DLC/LLC, Vanyan VINES, DEC LAT and NetBEUI environments. Also, many useful utilities such as BRAdmin Professional for the administrator and Brother network printing software are included in the CD-ROM supplied with the HL-2460 printer. For setup, see the Network User's Guide.

Installing the Network Board

☛ **1.** Turn off the printer power switch, and then unplug the power cord.

☛ **2.** Open the side cover.

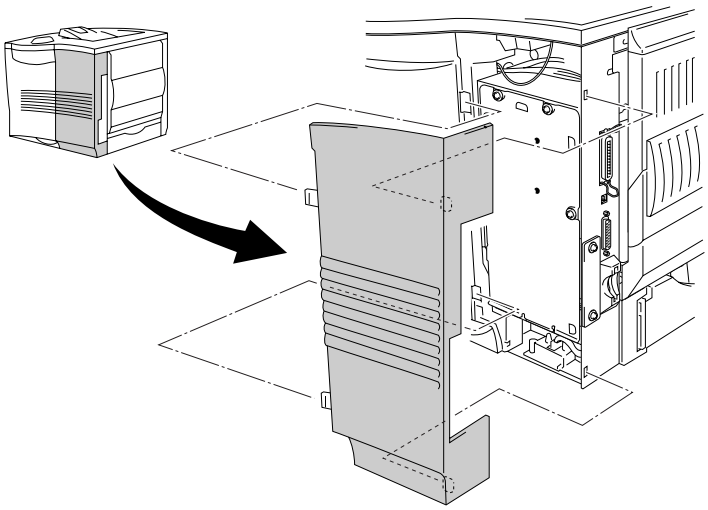


Fig. 4-4

☛ **3.** Unscrew the three screws in the order shown, and then remove the metal plate.

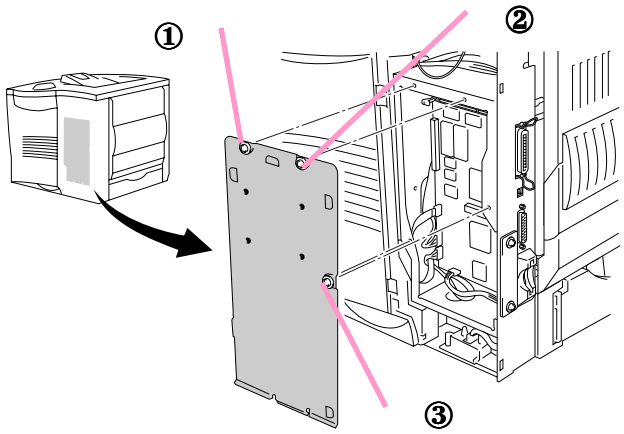


Fig. 4-5

☛ **4.** Unscrew the two screws, and then remove the Network cover plate.

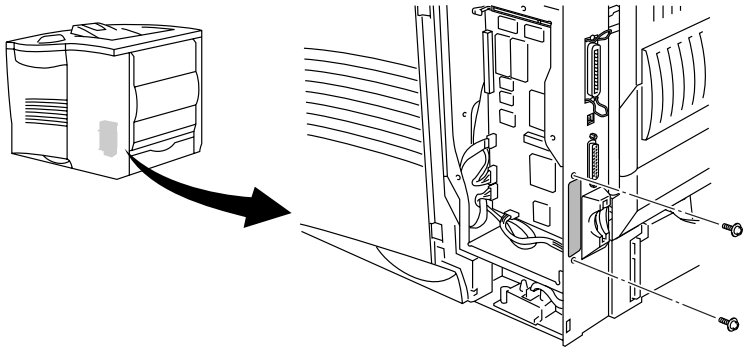


Fig. 4-6

☛ **5.** Insert the network board connector firmly into the connector of the main controller board, and then secure it with the two screws.

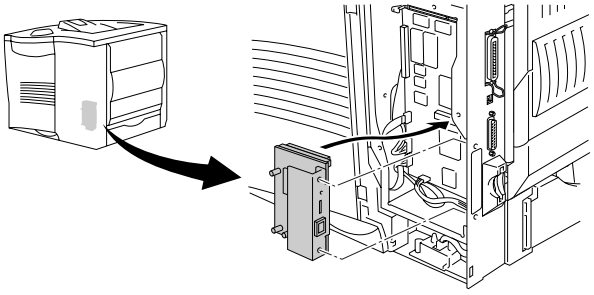


Fig. 4-7

☛ **6.** Secure the metal plate with the three screws in the order shown.

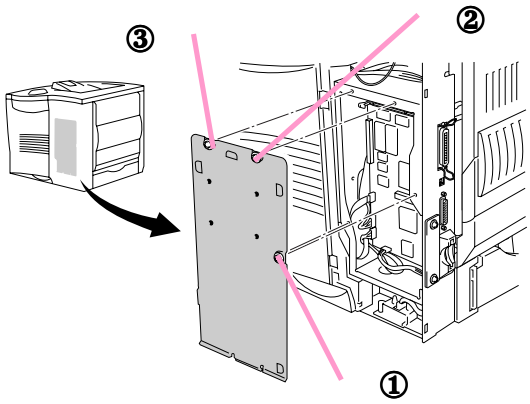


Fig. 4-8

☛ **7.** Close the side cover.

☛ **8.** Connect one end of the Ethernet Cable to the Network port of the printer.

☛ **9.** Plug the power cord into the AC outlet, and then turn on the power switch.

☛ **10.** For more details about how to optimize the Network board, please refer to the Network User's Guide on the CD-ROM supplied with this printer.

CompactFlash Card

This printer has a slot for an optional CompactFlash card, which is a memory card.

If you install an optional CompactFlash memory card, you can save macros, print log and fonts on it, and also select the re-print functions via the network.

The following type of Compact flash memory card can be installed:

<SanDisk (or SanDisk OEM Products)>

Type I

- 16MB SDCFB-16-505
- 32MB SDCFB-32-505
- 48MB SDCFB-48-505
- 64MB SDCFB-64-505
- 80MB SDCFB-80-505
- 96MB SDCFB-96-505
- 128MB SDCFB-128-505
- 160MB SDCFB-160-505
- 196MB SDCFB-196-505

Type II

- 256MB SDCFB-256-668
- 300MB SDCFB-300-668

Note

- Do not install or remove cards with the printer power on because you may lose all data from the card or seriously damage the card.
- For more information about the cards, consult the dealer where you purchased the printer.

Installing the CompactFlash Card

Follow these steps to install or remove a card:

☛ **1.** Turn off the printer power switch, and then unplug the power cord.

☛ **2.** Fit a CompactFlash card into the slot with the label facing to the left. Make sure it is inserted correctly.

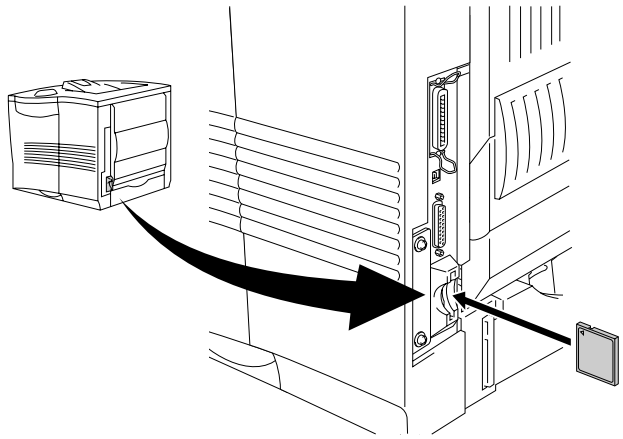


Fig. 4-9

Note

Before removing the card, turn off the power switch and then unplug the power cord. To remove the card, pull the card out of the printer.

RAM Expansion

This printer has 16 Megabytes of standard memory and 2 slots for optional expansion memory. The memory can be expanded up to 272 Megabytes by installing commercially available dual in-line memory modules (DIMMs). (The standard memory fitted can vary depending on the printer model and country.)

The following capacity of DIMM can be installed:

<US>

• 16 Megabytes	TECHWORKS	12456-0001
• 32 Megabytes	TECHWORKS	12457-0001
• 64 Megabytes	TECHWORKS	12458-0001
• 128 Megabytes	TECHWORKS	12459-0001

<Europe>

• 16 Megabytes	BUFFALO TECHNOLOGY	12323-0001
• 32 Megabytes	BUFFALO TECHNOLOGY	12324-0001
• 64 Megabytes	BUFFALO TECHNOLOGY	12325-0001
• 128 Megabytes	BUFFALO TECHNOLOGY	12326-0001

In general, the DIMM must have the following specifications:

Type:	100 pin and 32 bit output
CAS Lantency:	2 or 3
Clock Frequency:	66MHz or more
Capacity:	16, 32, 64 Megabyte or 128 Megabyte
Height:	46mm (1.8 inches) or less
Parity:	NONE
Dram Type:	SDRAM 4 Bank

SDRAM can be used.

Note

- For more information, consult the dealer where you purchased the printer.
- For the latest information, visit the Brother Solutions Center at http://solutions.brother.com

Installing additional DIMM memory

When you install additional memory (DIMM), follow these steps:

☛ **1.** Turn off the printer power switch, and then unplug the power cord. Disconnect the interface cable from the printer.

Note

Be sure to turn off the power to the printer before you install or remove the DIMM.

☛ **2.** Remove the side cover.

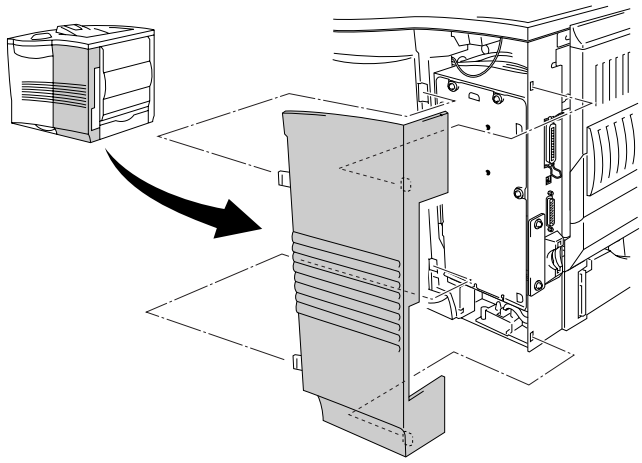


Fig. 4-10

☛ **3.** Unscrew the three screws in the order shown, and then remove the metal plate.

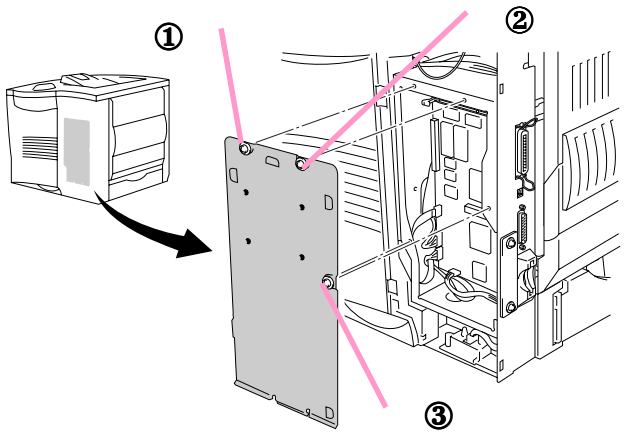


Fig. 4-11

☛ **4.** Unpack the DIMM and hold it by its edge.

☛ **5.** Hold the DIMM with your fingers on the side edges and thumb on the back edge. Align the notches on the DIMM with the DIMM slot. (Check that the locks on each side of the DIMM slot are open, or outward.)

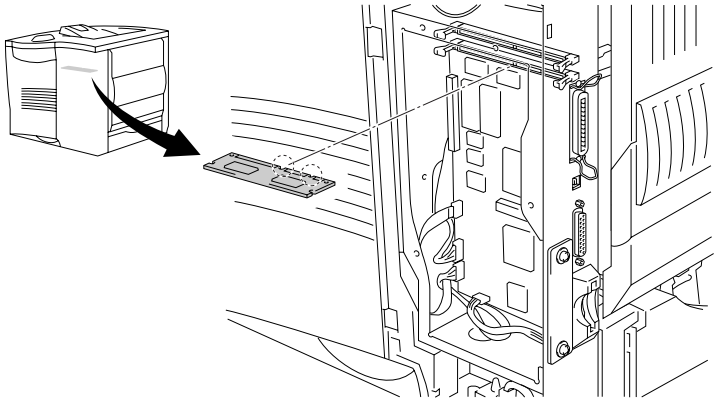


Fig. 4-12

☛ **6.** Press the DIMM straight into the slot (press firmly). Make sure the locks on each side of the DIMM snap inward into place. (To remove a DIMM, the locks must be released.)

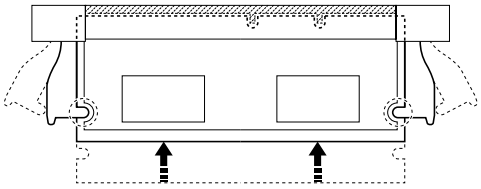


Fig. 4-13

☛ **7.** Secure the metal plate with the three screws in the order shown.

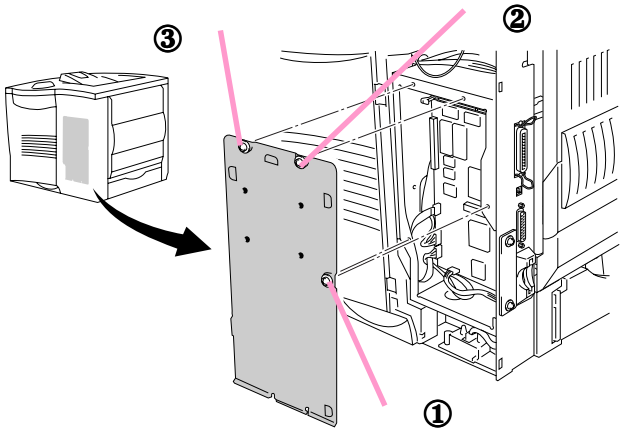


Fig. 4-14

☛ **8.** Install the side cover.

☛ **9.** Reconnect the interface cable from your computer.
Plug the power cord into the AC outlet, and then turn on the printer.

☛ **10.** To check whether the DIMM has been installed correctly, you can print a Test page “Print Configuration” that will print the current memory size. To print a “Configuration page,” see Chapter 3.

Hard Disk Drive (HD-6G/HD-EX)

If you install an optional HDD, you can save macros, print log and fonts on it, and also select your print job and re-print it though the network.

Confirm that the box contains the following items.

- Hard disk
- Hard disk cables (2)
- Shoulder screws (4)
- Screws (4)
- Setup guide

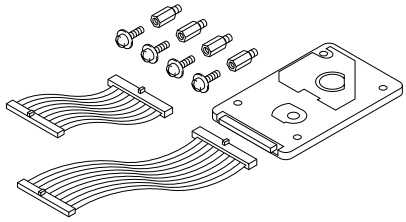


Fig. 4-15

Note

The supplied shorter cable is for other printers, do not use it for this printer model.

☛ **1.** Turn off the printer power switch, and then unplug the power cord. Disconnect the interface cable from the printer.

☛ **2.** Remove the side cover.

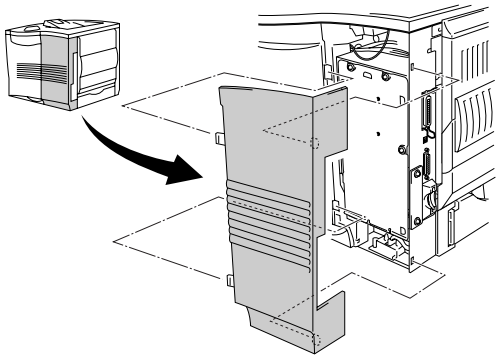


Fig. 4-16

☛ **3.** Unscrew the three screws in the order shown, and then remove the metal plate.

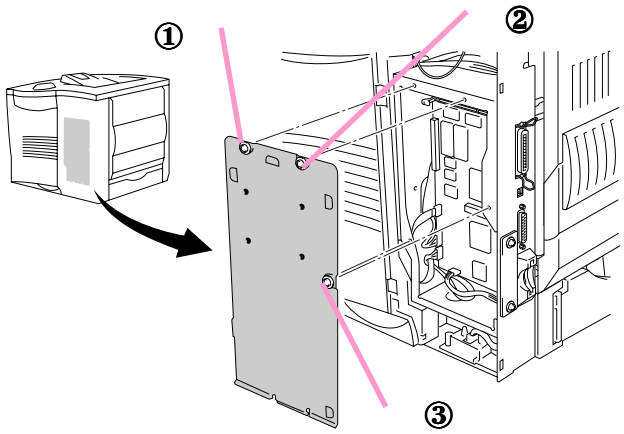


Fig. 4-17

☛ **4.** Insert the 4 shoulder screws, supplied with the HDD unit, into the bottom of the HDD.

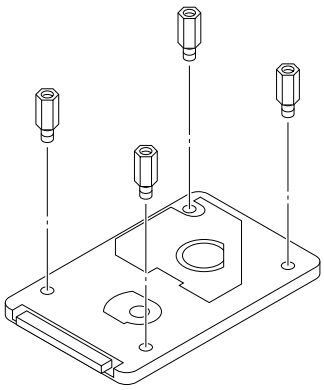


Fig. 4-18

☛ **5.** Connect the longer hard disk cable to the HDD with the keyed side facing up.

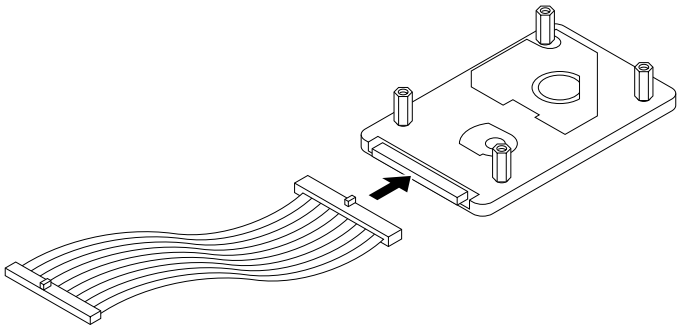


Fig. 4-19

☛ **6.** Install the HDD base plate by fitting the 4 Screws into the 4 holes of the metal plate so that the HDD pins point to the rear of the printer, and then secure the plate with the 4 screws.

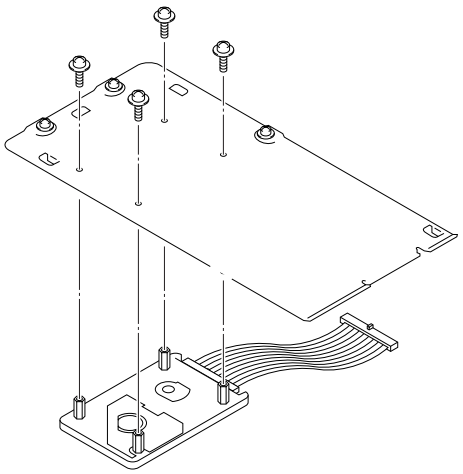


Fig. 4-20

☛ **7.** Connect the flat cable to the main controller board.

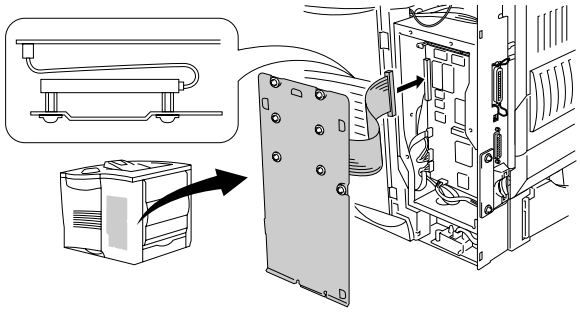


Fig. 4-21

☛ **8.** Secure the metal plate with the three screws in the order shown.

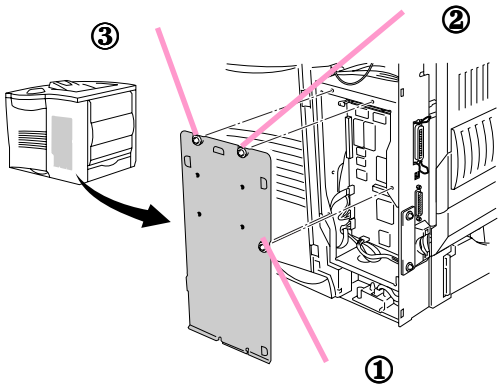


Fig. 4-22

☛ **9.** Install the side cover.

☛ **10.** Reconnect the interface cable from your computer.
Plug the power cord into the AC outlet, and then turn on the printer.

☛ **11.** Format the HDD from the control panel. See Chapter 3 for details.

Ir-DA interface (IR-1000)

IR-1000 connects to any printer and prints data without using connecting cables.

- Supports IrDA1.1 Infrared communication standard.
- Fully compatible with Windows 95/98/ Me, Windows NT 4.0, Windows 2000 Infrared printer device.
- Transmits and receives data at up to 4 Mbits/sec.
- Connects to the PC parallel port and connects to the Centronics parallel port on the printer.
- Allows a printer to communicate with an infrared-equipped portable computer.
- Transmission range: 1 cm (3.9 inch) up to 100 cm (39 inch), meets the IrDA standard.
- 30 degree cone angle.
- Selects between infrared or parallel port.

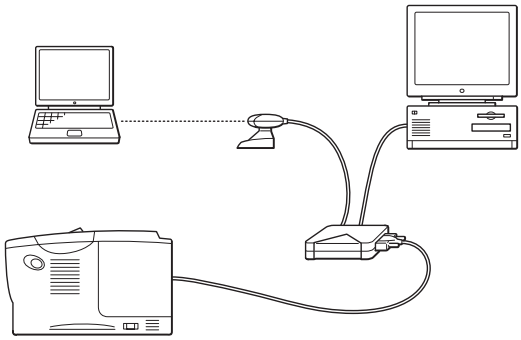


Fig. 4-23

Optional font package (BS-3000)

The optional font package (BS-3000) is the CD-ROM to install the 136 PS3 Agfa and TrueType Fonts.

CHAPTER 5 MAINTENANCE

Replacing the Toner Cartridge

Toner cartridge (TN-9500)

The toner cartridge is in a bag inside the toner cartridge carton.

A new toner cartridge contains enough toner to print up to approximately 11,000 A4/Letter-size single-sided pages at about 5% coverage (if the print density is set at level 0).

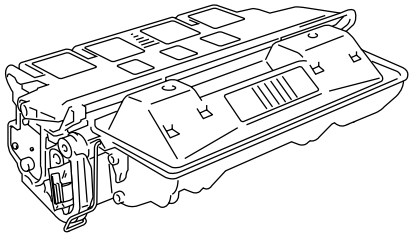
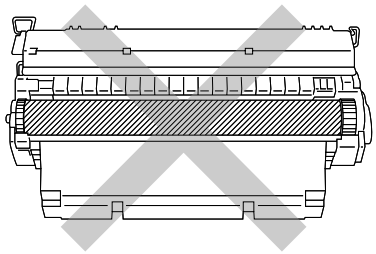


Fig. 5-1

Note

- This toner cartridge is a single-component cartridge. The microfine toner does not become magnetized.
- The toner cartridge is packed inside a bag. Do not open it until immediately before you install the toner cartridge. The toner cartridge must not be exposed to light for a long time.
- Do not expose the toner cartridge to direct light.
- Do not stand the toner cartridge on its end or turn it upside down.
- Do not open the drum shutter because it might cause serious damage, resulting in poor print quality.
- Do not touch the shaded parts shown below.
- Toner consumption varies according to the image coverage on the page and the print density setting.
- The greater the image coverage, the greater the toner consumption.
- If you change the print density setting for lighter or darker printing, toner consumption varies accordingly.

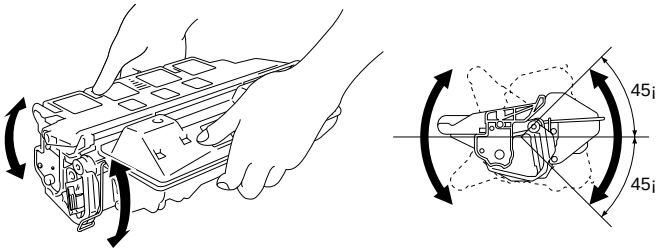


TONER EMPTY message

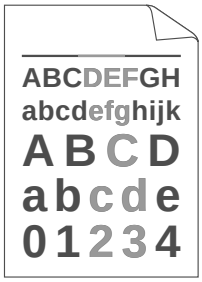
You will need to replace the toner cartridge periodically.

Note

When the "TONER EMPTY" message appears on the LCD panel, remove the Toner cartridge, and rock it gently several times to distribute the toner evenly inside the cartridge. Re-install the same toner cartridge.



Afterward, if you have any print quality problems, replace the toner cartridge with a new one.



Every time you replace the toner cartridge, you need to clean the inside of the printer. For more information on cleaning, see "Cleaning" in this chapter.

Note

To ensure optimum print quality, be sure to use quality toner cartridges. To obtain toner cartridges, consult the dealer where you purchased the printer.

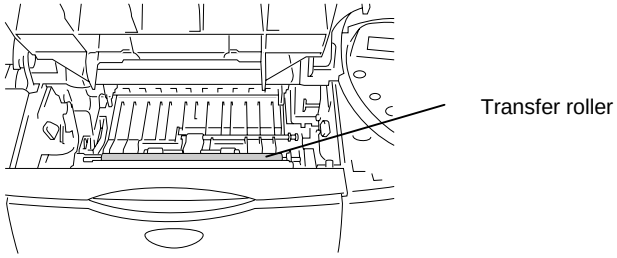
To replace the toner cartridge, follow these steps:

☛ **1.** Open the top cover of the printer.

☛ **2.** Remove the toner cartridge.

Note

Never touch or clean the transfer roller, or print quality may deteriorate.



☛ **3.** Unpack the new toner cartridge.

☛ **4.** Hold the toner cartridge with both hands. Rock it gently several times at a 45° angle. This distributes the toner evenly inside the cartridge.

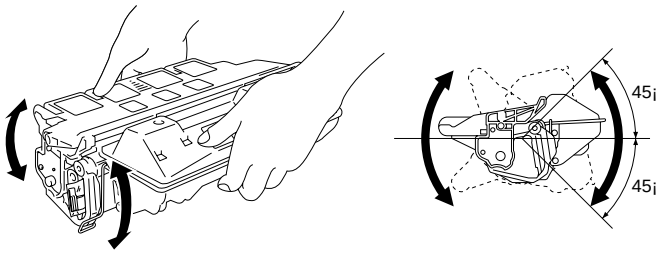


Fig. 5-2

☛ **5.** Bend the tab up and down several times until it is detached from the toner cartridge.

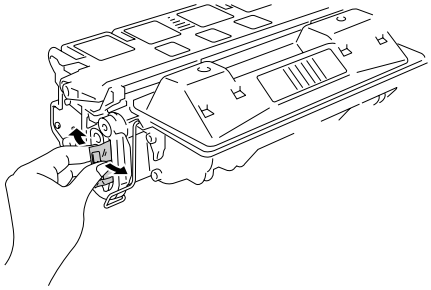


Fig. 5-3

☛ **6.** Hold the tab firmly and pull it until the sealing tape comes out all the way.

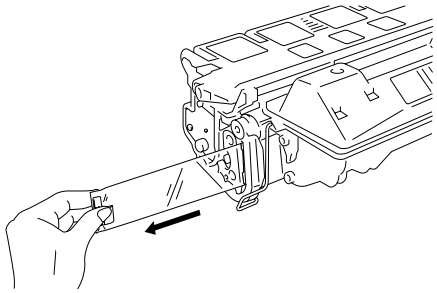


Fig. 5-4

☛ **7.** Install the new toner cartridge firmly into the printer.



Fig. 5-5

☛ **8.** Close the top cover of the printer.

Cleaning

Clean the printer exterior and interior periodically with a **dry soft** cloth. When you replace the Toner cartridge, be sure to clean the printer interior. If printed pages are stained with toner, clean the printer interior with a dry soft cloth.

Cleaning the printer exterior

Clean the printer exterior as follows:

☛ **1.** Turn off the printer power switch, and then unplug the power cord.

☛ **2.** Pull the paper cassette out of the printer.

☛ **3.** Open the multi-purpose tray.

☛ **4.** Wipe the printer body with a soft cloth to remove dust.

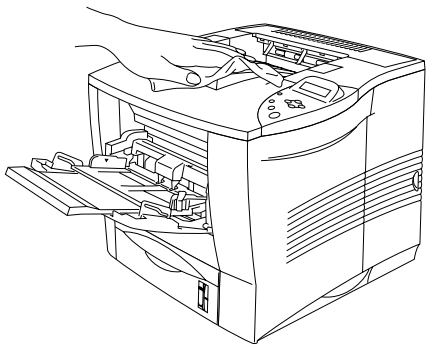


Fig. 5-6

☛ **5.** If paper and foreign objects are stuck in the paper cassettes, remove them.

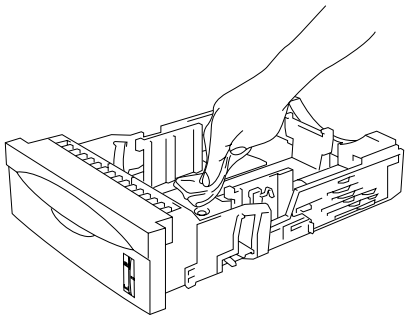


Fig. 5-7

☛ **6**. Install the paper cassette into the printer, and then close the multi purpose tray.

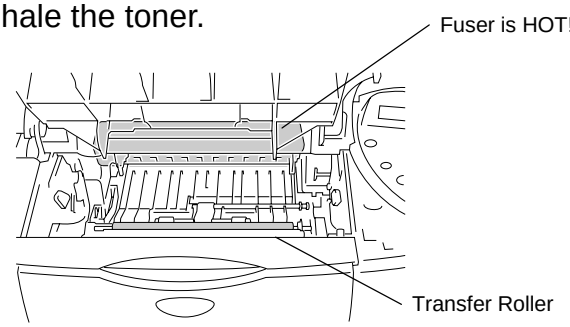
☛ **7**. Plug the power cord into the AC outlet, and then turn on the printer.

Cleaning the printer interior

Notes

When you clean the printer interior, pay attention to the following:

- If your clothes are smeared with toner, wipe off the toner with a dry cloth and immediately wash the clothes in cold water to avoid stains.
- Never touch the hot fuser.
- Never touch or clean the transfer roller, or print quality may be adversely affected.
- Be careful not to inhale the toner.



Clean the printer interior as follows:

1. Turn off the printer power switch, and then unplug the power cord.

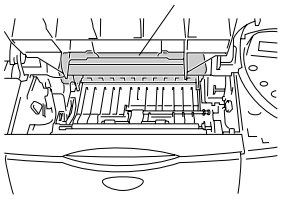
2. Open the top cover.

3. Remove the toner cartridge.

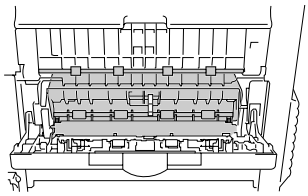
Warning

After you have just used the printer, some internal parts of the printer are extremely hot.
When you open the top cover of the printer, never touch the fuser and fixing roller.

Fuser is HOT!



Inside the printer



Open the face up output tray

☛ **4.** Wipe off toner and paper dust from the metal plate in the printer with a dry, soft cloth.

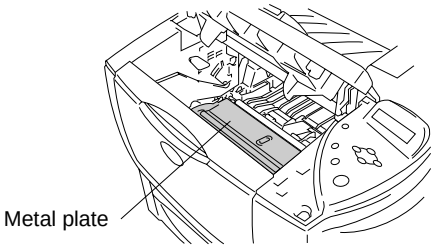


Fig. 5-8

☛ **5.** Lift up the metal plate inside the printer.
Wipe off toner and paper dust from the back of the metal plate and the surface underneath it with adry, soft cloth.

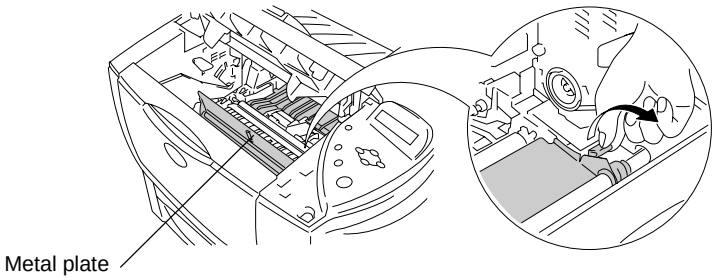


Fig. 5-9

☛ **6.** Lower the metal plate.

☛ **7.** Wipe the scanner window with a dry, soft cloth.

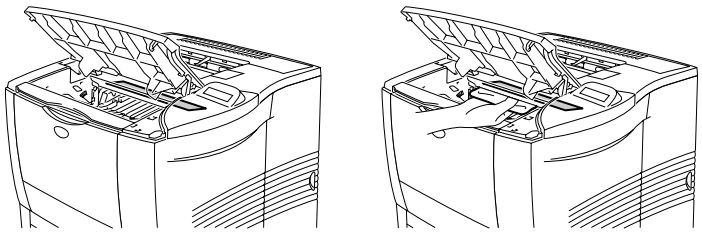


Fig. 5-10

☛ **8.** Install the toner cartridge into the printer.

☛ **9.** Close the top cover.

☛ **10.** Plug the power cord into the AC outlet, and then turn on the printer.

CHAPTER 6
TROUBLE SHOOTING

LCD messages

Note

The paper trays and LCD panel descriptions in this manual are named as shown below.

Upper paper tray	Tray 1
Multi-purpose tray	MP tray
Optional Lower tray	Tray 2/3/4
Optional Duplex unit for Duplex printing	DX
Optional Mailbox unit	MX

Error messages

Error Message	Action
TONER EMPTY	Replace the toner cartridge with a new one. See "Replacing the Toner cartridge" in Chapter 5.
NO TONER	Install the toner cartridge.
NO PAPER XXX	Load paper into the indicated tray.
NO TRAY XXX	Install the paper cassette into the indicated tray.
COVER OPEN	Close the top cover of the printer. Close the duplex cover. Close the rear cover of the mailbox.
FACE UP OPEN	Close the face up output tray.
JAM XXX	Remove the jammed paper from the indicated area. See "Paper jams and how to clear them."
STACKER FULL	Remove the excess paper from the output tray.
SIZE MISMATCH	Load the paper that is specified in the printer driver in the paper tray or multi-purpose tray, and then press the Go switch.
TOO MANY TRAYS	Maximum number of lower trays is three. Remove additional trays.

Error Message	Action
MEDIA TYPE ERROR	Specify the correct media type: XX.
MANUAL FEED	The size of paper in the multi-purpose tray is wrong. Load the correct size of paper in the multi-purpose tray, or while the printer is in Stop mode, and then press the Go switch.
SIZE ERROR XXX	Set the correct paper that you want to use into the indicated tray, or load the same size paper that you selected in the current driver setting. "What kind of paper can I use?" in Chapter 1.
NO TRAY ID XXX	Install the specified ID tray.
SIZE ERROR DX	Set the correct paper that you want to use, or load the same size paper that you selected in the current driver setting. See "What kind of paper can I use?" in Chapter 1.
SIZE ERROR MX	Set the correct paper that you want to use, or load the same size paper that you selected in the current driver setting. See "What kind of paper can I use?" in Chapter 1.
NO DX UNIT	Install the duplex unit correctly. See the duplex unit User's Guide.
DX LEVER ERROR	Set the duplex lever to the correct position.
NO MX UNIT	Change the job properties or install the Mailbox unit correctly.
DIMM ERROR	Install the DIMM correctly. Turn off the printer. Wait a few seconds, and then turn it on again. If this error message appears again, replace it with a new card.
CARD ERROR	Make sure of the following points: • The cable is connected correctly. • The card is installed correctly. • The installed card is formatted correctly. Turn off the printer. Wait a few seconds, and then turn it on again. If this error message appears again, replace it with a new card.
HDD ERROR	Make sure of the following points: • The cable is connected correctly. • The HDD is installed correctly. • The installed HDD is formatted correctly. Turn off the printer. Wait a few seconds, and then turn it on again. If this error message appears again, replace it with a new HDD.
CARD REMOVAL	Turn off the printer. Wait a few seconds, and then turn it on again. If this error message appears again, replace it with a new CompactFlash card.
LINE ERROR	Check the Serial interface settings. (baud rate, code type, parity and hand shake protocols).
BUFFER ERROR	Check the Interface settings.
STORAGE FULL	Delete unnecessary macros or fonts, or use a new card or HDD.

Error Message	Action
DOWNLOAD FULL	Add optional memory. See “Installing additional memory” in Chapter 4.
FONT FULL	Add optional memory. See “Installing additional memory” in Chapter 4.
MEMORY FULL	Add optional memory. See “Installing additional memory” in Chapter 4.
IGNORE DATA	Postscript error has occurred. Add optional memory. See “Installing additional memory” in Chapter 4.
ACCESSORY ERROR	The optional accessory is not installed correctly.

Maintenance messages

Maintenance Message	Action
TONER EMPTY	Replace the new toner cartridge referring to Chapter 5.
REPLACE PF KIT1	Consult your dealer for a replacement paper feeding kit.
REPLACE PF KIT2	Consult your dealer for a replacement paper feeding kit.
REPLACE PF KIT3	Consult your dealer for a replacement paper feeding kit.
REPLACE PF KIT4	Consult your dealer for a replacement paper feeding kit.
REPLACE FUSER	Consult your dealer for a replacement fuser unit.
REPLACE LASER	Consult your dealer for a replacement laser unit.
REPLACE TRANSFER	Consult your dealer for a replacement transfer roller.

Call service messages

Call Service Message	Action
ERROR ###	Turn off the printer. Wait a few seconds, and then turn it on again. If this does not clear the problem, consult your dealer or a Brother authorized service representative.

Troubleshooting Paper Handling

First, ensure that you are using paper that meets Brother recommended paper specifications. See “What kind of paper can I use?” in Chapter 1.

Problem	Recommendation
The printer does not load paper.	• If there is paper in the paper cassette, make sure it is straight. If the paper is curled, you should straighten it before printing. Sometimes it is helpful to remove the paper, turn the stack over, and then reload it in the paper cassette. • Reduce the amount of paper in the paper cassette, and then try again. • Check that manual feed mode is not selected in the printer driver. • The pickup roller or separation pad needs to be replaced. Please consult your dealer for replacement
The printer does not load paper from the multi-purpose tray.	• Fan the paper, and re-install the paper firmly. • Make sure the manual feed mode is selected in the printer driver.
The printer does not load envelopes.	• The printer can load envelopes from the multi-purpose tray. Your application software must be set up to print on the envelope size you are using. This is usually done in the Page Setup or Document Setup menu of your software. See your software application manual.
A paper jam has occurred.	• Clear the jammed paper referring to “Paper jams and how to clear them.” • You need to replace the pickup roller or separation pad. Please consult your dealer for replacement.
The printer feeds multiple pages.	• The pickup roller or separation pad needs to be replaced. Please consult your dealer for replacement.
The printer does not print to the face down output tray.	• Close the face up output tray.
The printed pages are curled, so the Face down output tray cannot hold the prescribed number of sheets.	• Turn paper in the Paper cassette over. • Change the printer driver setting in MediaType into thicker setting level than current setting.
The printer does not print.	• Make sure that the cable is connected to the printer. • Make sure that the appropriate printer driver is selected.

Paper Jams and How to Clear them

If paper jams in the printer, it will stop printing and display the following messages:

JAM TRAYXXXX	♦ *Paper jam in the Upper paper tray (Tray1) or Lower tray (Tray 2/3/4)*
JAM MP TRAY	♦ *Paper jam in the Multi-purpose tray*
JAM INSIDE	♦ *Paper jam inside the Printer*
JAM REAR	♦ *Paper jam at the Paper exit* ♦ *Paper jam in the Face up output tray*
JAM DUPLEX	♦ *Paper jam in the Duplex unit*
JAM MAILBOX	♦ *Paper jam in the Mailbox unit*

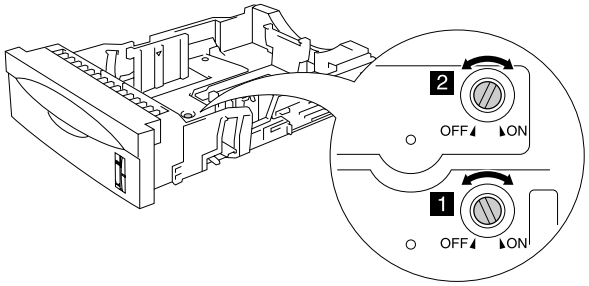
Paper may jam in the paper cassette, inside the printer, in the face up output tray or at the paper exit. Check the jam location and follow the instructions below to remove the jammed paper.

If the error message still appears on the LCD after you remove the jammed paper, there may be an additional paper jammed in another position. Please check all positions.

After all jammed paper has been removed, open the top cover, and then close the top cover again to start printing.

Note

If the paper is misfeeding or multiple pages frequently feed at once when you print on small-sized or thick paper, we recommend that you change the adjustment levers in the paper cassette as follows:



The switches in this illustration are shown in the default setting position.

A6	Switch 1: OFF Switch 2: OFF
A4 100 g/m^2 (27 lbs) Letter 105 g/m^2 (28 lbs) Legal 105 g/m^2 (28 lbs)	Switch 1: ON Switch 2: ON
Executive, A5, B6	Switch 1: OFF Switch 2: ON

Do not use the following paper:

- Bent paper
- Moist paper
- Paper that does not meet specifications

JAM TRAY (inside the Paper tray)

JAM TRAYXXX

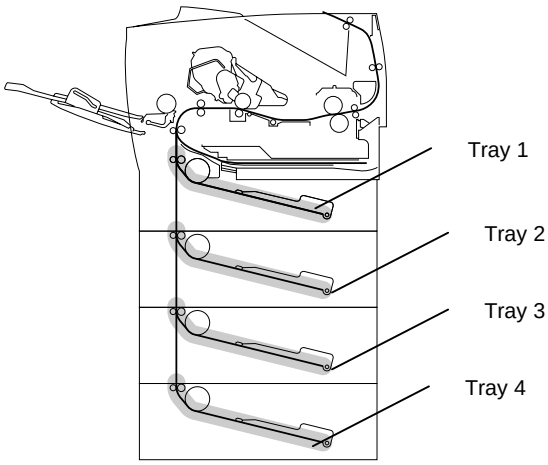


Fig. 6-1

XXXX indicates the tray number that contains jammed paper.

Note

The paper trays and LCD panel descriptions in this manual are named as shown below.

Upper paper tray	Tray 1
Optional Lower tray	Tray 2/3/4

If a paper jam occurs inside the paper tray, follow these steps:

☛ **1.** Pull the paper cassette out of the printer.

☛ **2.** Remove the jammed paper.

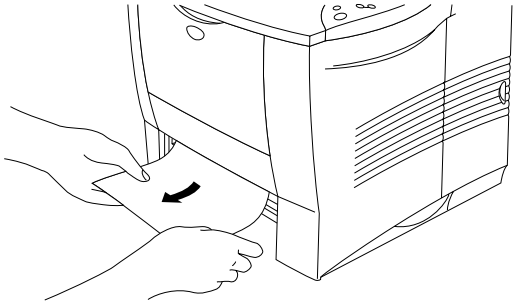
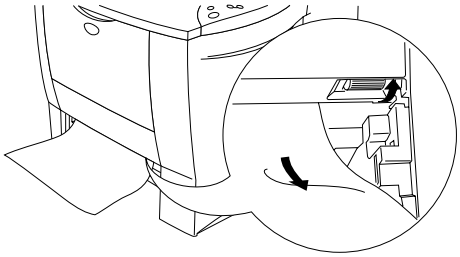


Fig. 6-2

Note

- When you cannot remove a small piece of jammed paper, it is easy to remove it by turning the dial to the lower position, as shown below.



- If a paper jam occurs when using A6 size paper, remove the jammed paper, turn over the stack of the paper in the paper cassette, and print it again.

☛ **3.** Make sure that the paper guide release lever is set to the paper size in the paper cassette, and paper is loaded below the limit ▼ mark.

☛ **4.** Install the paper cassette into the printer.

Caution

Do not pull out the upper paper cassette while paper is being fed from the lower paper cassette because it will cause a paper jam.

JAM TRAY (in the Multi-purpose tray)

```
JAM MP TRAY
```

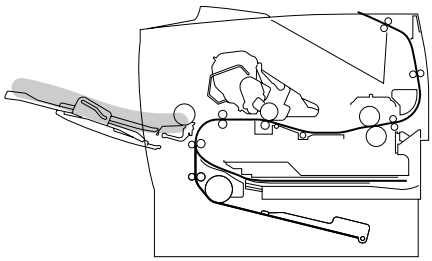


Fig. 6-3

If a paper jam occurs in the multi-purpose tray, follow these steps:

☛ **1.** Remove the paper from the multi-purpose tray.

☛ **2.** Fan the paper stack, and then reload it in the multi-purpose tray.

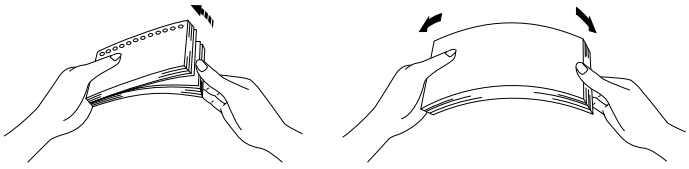


Fig. 6-4

☛ **3.** Make sure that the paper is inserted fully into the multi-purpose tray and touches the back of the tray and remains below the limit ▼ mark.

☛ **4.** Open the top cover of the printer and close it, or press the **Go** switch to start printing.

JAM INSIDE (inside the printer)

```
JAM INSIDE
```

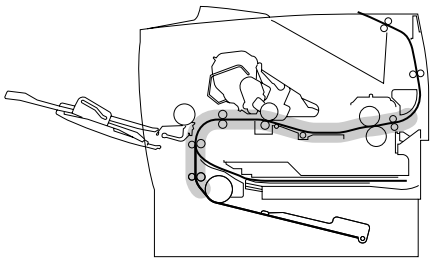


Fig. 6-5

☛ **1.** Open the top cover of the printer.

☛ **2.** Remove the toner cartridge.

☛ **3.** Lift up the metal plate inside the printer.

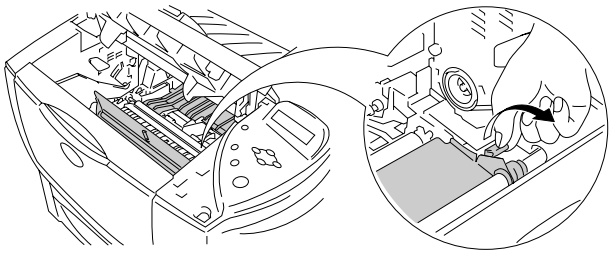
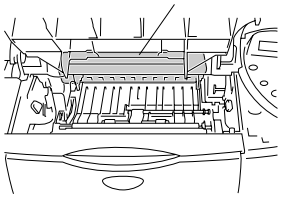


Fig. 6-6

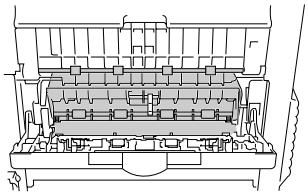
Warning

After you have just used the printer, some internal parts of the printer are extremely hot.
When you open the top cover of the printer, never touch the fuser and fixing roller.

Fuser is HOT!



Inside the printer



Open the face up output tray

Caution

- After having removed the jammed paper, if the printed page has toner stains, print several test pages before restarting your print job.
- Remove the jammed paper carefully so you do not spread toner.
- Take care not to stain your hands and clothes with toner. Wash toner stains immediately with cold water.
- Never touch the transfer roller.

☛ **4.** Slowly pull out the jammed paper from inside the printer with both hands.

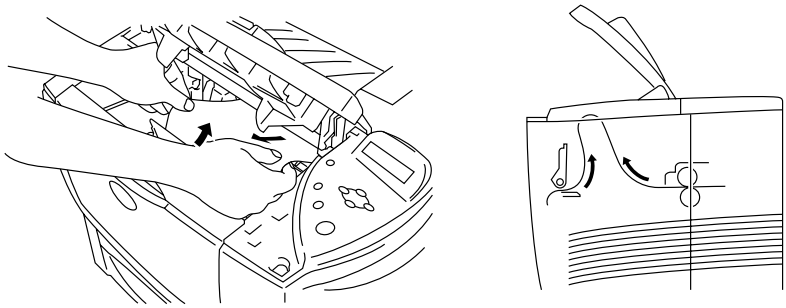


Fig. 6-7

☛ **5.** Push the metal plate down.

☛ **6.** Install the toner cartridge firmly into the printer.

☛ **7.** Close the top cover of the printer.

Note

If a paper jam occurs when using A6 size paper, remove the jammed paper, turn over the stack of the paper in the paper cassette, and print it again.

JAM REAR (at paper exit)

JAM REAR

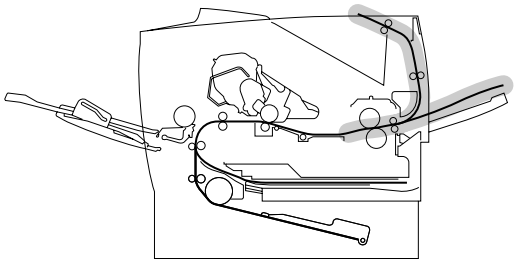


Fig. 6-8

☛ **1.** Open the top cover of the printer.

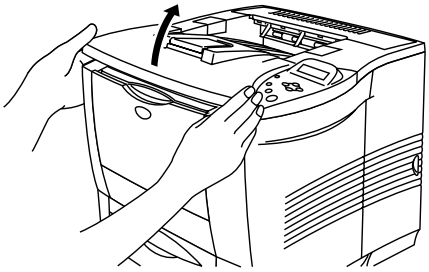


Fig. 6-9

☛ **2.** Slowly pull the jammed paper from the paper exit with both hands.

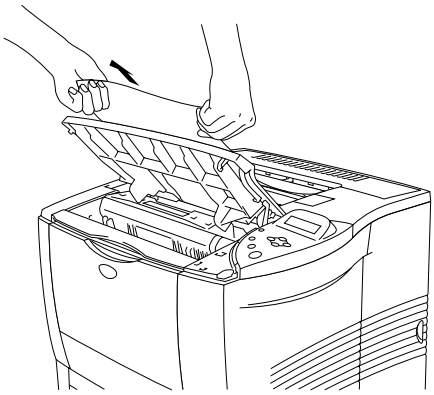


Fig. 6-10

☛ **3.** Close the top cover of the printer.

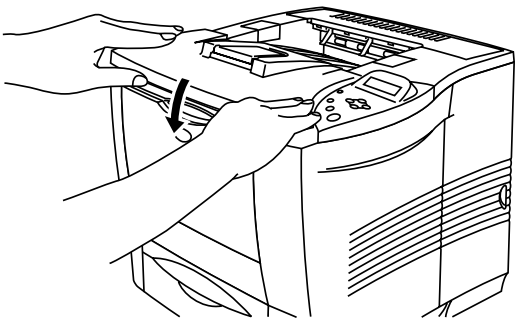


Fig. 6-11

JAM REAR (at Face up output tray)

JAM REAR

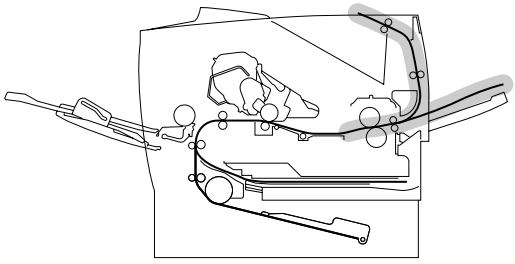


Fig. 6-12

When a paper jam occurs behind the face up output tray before the paper exits, remove the jammed paper as follows:

☛ **1.** Open the top cover of the printer.

Note

If a duplex unit is installed on the printer, remove it from the printer. After removing the jammed paper, re-install the duplex unit onto the printer.

☛ **2.** Open the face up output tray.

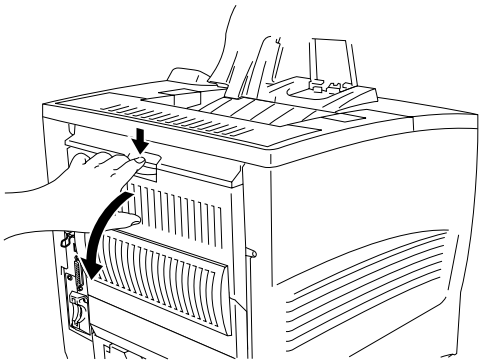


Fig. 6-13

☛ **3.** Slowly remove the jammed paper with both hands.

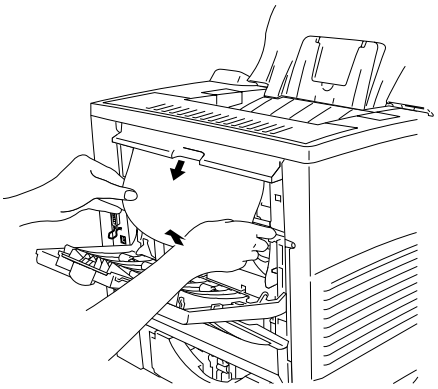


Fig. 6-14

☛ **4.** Close the face up output tray.

☛ **5.** Close the top cover of the printer.

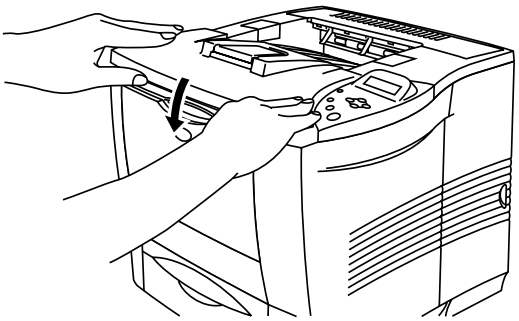


Fig. 6-15

JAM DUPLEX (in the Duplex unit)

JAM DUPLEX

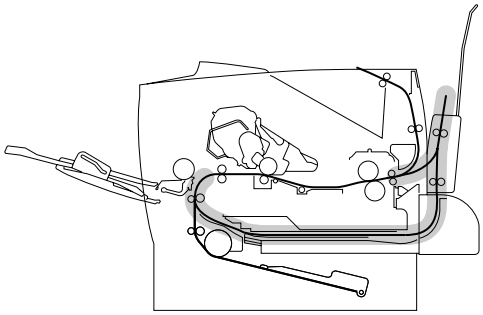


Fig. 6-16

☛ **1.** Open the top cover of the printer.

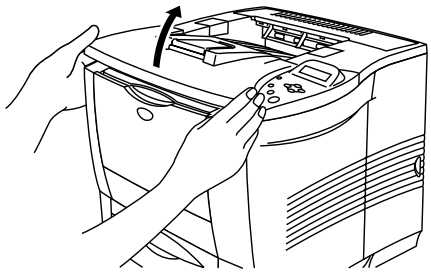


Fig. 6-17

☛ **2.** Slowly remove the jammed paper from the paper exit of the duplex unit with both hands.

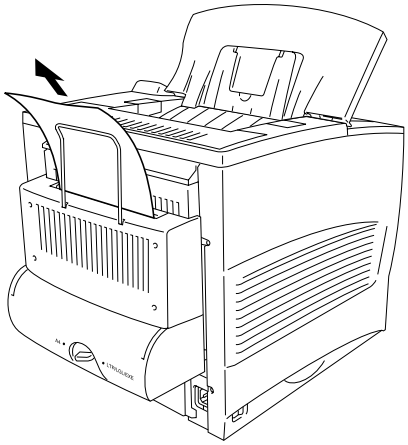


Fig. 6-18

☛ **3.** Open the duplex unit cover gently with both hands.

☛ **4.** Remove the duplex unit from the printer with both hands.

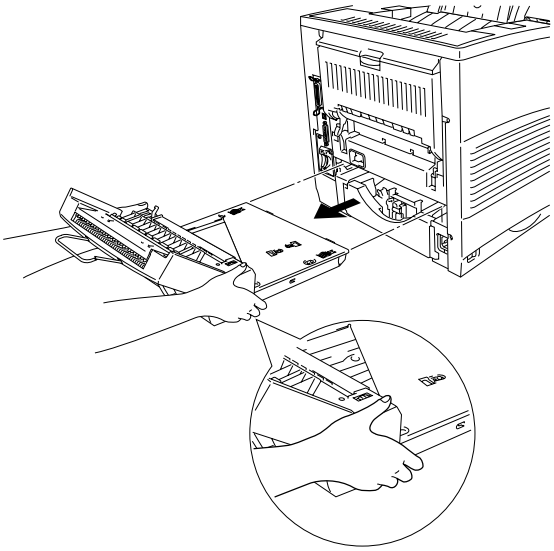


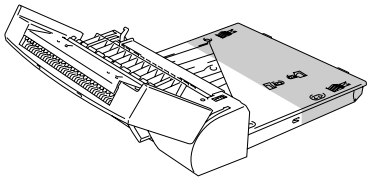
Fig. 6-19

Note

Look inside the printer duplex unit slot and make sure that the jammed paper is not in there.

Caution

Remove the duplex unit by holding it firmly with both hands because the shaded part in the illustration is heavier.



☛ **5.** Remove the jammed paper from inside the duplex unit.

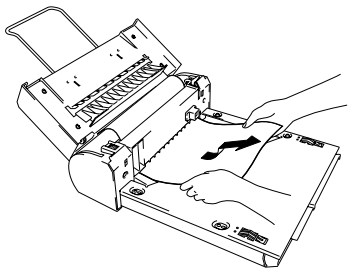


Fig. 6-20

☛ **6.** Re-install the duplex unit into the printer.

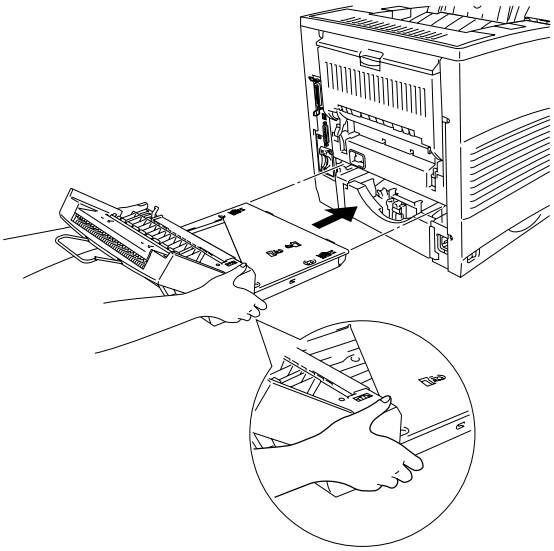


Fig. 6-21

☛ **7.** Close the duplex unit cover gently.

☛ **8.** Close the top cover of the printer.

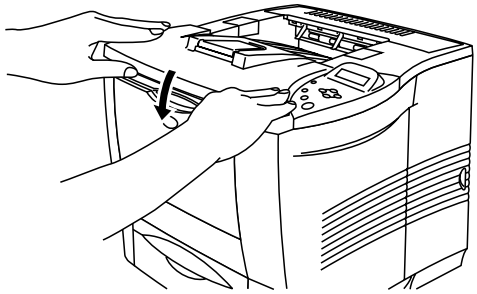


Fig. 6-22

JAM MAILBOX (inside the Mailbox unit)

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JAM MAILBOX
```

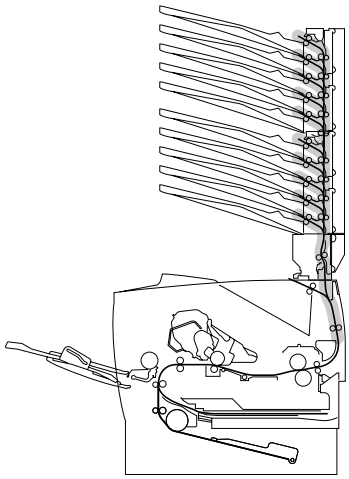


Fig. 6-23

If a paper jam occurs in the mailbox unit, follow these steps:

☛ **1.** Open the rear cover of the mailbox unit.

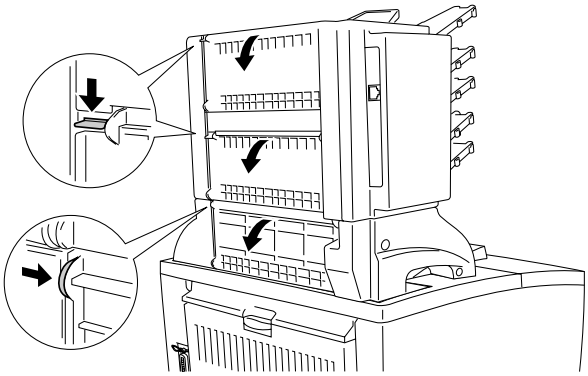


Fig. 6-24

☛ **2.** Remove the jammed paper.

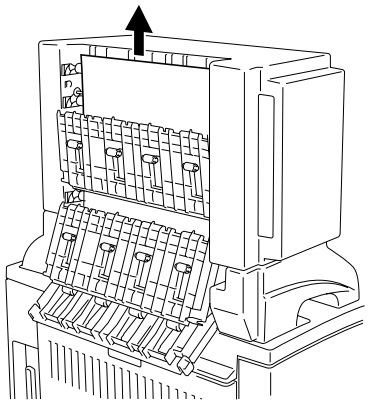


Fig. 6-25

☛ **3.** Close the rear cover of the mailbox.

☛ **4.** Open the top cover of the printer, and then close it to resume printing.

Note

If this message still appears on the LCD even after you removed the jammed paper, turn off the printer. Wait a few seconds, and then turn the printer on again.

Improving the print quality

This section provides information on the following topics:

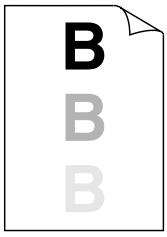
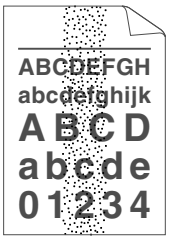
Image defectsamples	Recommendation
 **Faint**	• Check the printer's environment. Conditions such as humidity, high temperatures, etc., may cause this print defect to occur. See “Positioning the printer” in Chapter 1. • If the whole page is too light, the toner save mode may be on. Disable the toner save mode in the printer Properties tab of the Driver. • Try installing a new toner cartridge. See “Replacing the Toner cartridge” in Chapter 5. • You may clear the problem by wiping the scanner window with a soft cloth. See "Cleaning the printer interior" or the "Maintenance Tutorial" movie on the supplied CD-ROM.
 **Gray background**	• Make sure that you use paper that meets the recommended specifications. See “What kind of paper can I use” in Chapter 1. • Check the printer's environment; high temperature and high humidity conditions can increase the amount of background shading. See “Positioning the printer” in Chapter 1. • Install a new toner cartridge. See "Replacing the Toner cartridge" in Chapter 5.
 **Ghost**	• Make sure that you use paper that meets the specifications. Rough surfaced paper, paper that has absorbed moisture or thick print media can cause this problem. See “What kind of paper can I use” in Chapter 1. • Make sure that you select the appropriate media type in the printer driver. See “What kind of paper can I use” in Chapter 1. • Try installing a new toner cartridge. See “Replacing the Toner cartridge” in Chapter 5.
 **Toner specks**	• Make sure that you use paper that meets the specifications. Rough surfaced paper may cause the problem. See “What kind of paper can I use” in Chapter 1. • The toner cartridge may be damaged. Install a new toner cartridge. See "Replacing the Toner cartridge" in Chapter 5.

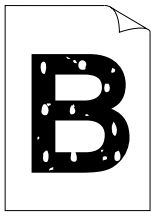
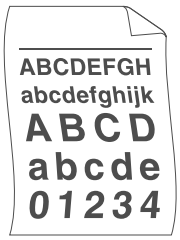
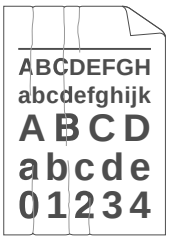
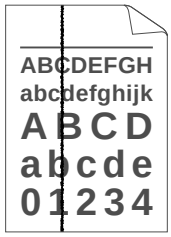
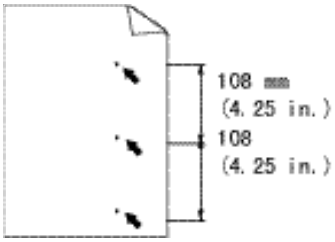
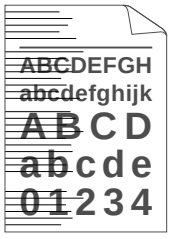
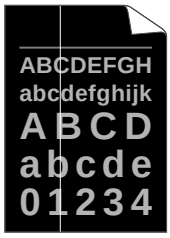
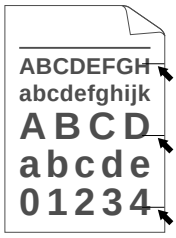
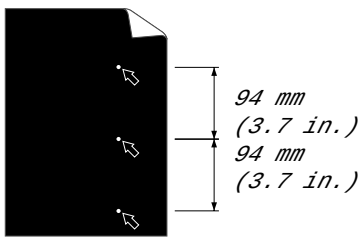
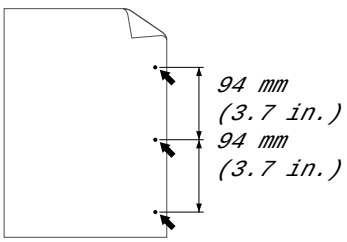
Image defect samples	Recommendation
 Hollow print	• Make sure that you use paper that meets the specifications. See “What kind of paper can I use” in Chapter 1. • Select the ‘Thick paper mode’ in the printer driver, or use thinner paper than you are currently using. • Check the printer’s environment because conditions such as high humidity may cause this situation to occur. See “Positioning the printer” in Chapter 1.
 Page skew	• Make sure the paper or other print media is loaded properly in the paper cassette and that the guides are neither too tight nor too loose against the paper stack. • Set the paper guides correctly. Make sure that the tips of the paper guides fit into their slots correctly. See “Printing from the Paper cassette” in Chapter 1. • If you are using the Multi-purpose tray, see "Printing from the Multi-purpose tray" in Chapter 1. • The paper cassette may be too full. See “Printing from the Paper cassette” in Chapter 1. • Check the paper type and quality. See "What kind of paper can I use" in Chapter 1.
 Curl or wave	• Check the paper type and quality. Both high temperature and high humidity will cause paper to curl. See “What kind of paper can I use” in Chapter 1. • If you use the printer infrequently, the paper may have been in the paper cassette for too long. Turn over the stack of paper in the paper cassette. Also, try fanning the paper stack, and then rotating the paper 180° in the paper cassette.
 Wrinkles or creases	• Make sure the paper is loaded properly. See “Printing from the Paper cassette” in Chapter 1. • Check the paper type and quality. See “What kind of paper can I use” in Chapter 1. • Turn over the stack of paper in the tray or try rotating the paper 180° in the input tray.

Image defect samples	Recommendation
 **Black Vertical lines** Printed pages are stained with toner or have vertical stripes	• The toner cartridge may be damaged. Install a new toner cartridge. See "Replacing the Toner cartridge" in Chapter 5. • You may clear the problem by wiping the scanner window with a soft cloth. See "Cleaning the printer interior" or the "Maintenance Tutorial" movie on the supplied CD-ROM.
 **Black Spots** Black spots at intervals of 108 mm (4.25 in.)	• Print the Cleaning page. This consists of 2 sheets which can be printed by selecting the Maintenance selection under the INFORMATION menu on the control panel. If the black spots still appear, print the Cleaning page again. For more information, see Chapter 3.

If you see the following print quality problems, the toner cartridge may be damaged. Install a new toner cartridge. See "Replacing the Toner cartridge" in Chapter 5.

 All black	 Horizontal Lines	 White Vertical streaks
 Black Horizontal repetitive marks Toner scatters and stains the printed page.	 White Spots Printed pages have white spots in black text and graphics at intervals of 94 mm (3.7 in.).	 Printed pages have black spots at intervals of 94 mm (3.7 in.).

How to print correctly

Problem	Recommendation
The printer prints unexpectedly or it prints garbage.	• Make sure the printer cable is not too long. We recommend that you use a parallel cable of less than 2 metres (6.6 feet) in length. • Check if the printer cable is damaged or broken. • If you are using an interface-switching device, remove it and then connect your computer directly to your printer and try again. • Check that the appropriate printer driver is selected as 'Set as Default'. • Check that the printer is not connected to the same port that is also connected to a mass storage device or scanner. Remove all other devices and then connect the port only to the printer. • Turn off printer status reporting in the Device/Options tab in the printer driver.
The printer cannot print full pages of a document.	• Press the **Go** switch to print the data remaining in the printer. • If this does not clear the error, reduce the complexity of your document or reduce the print resolution. • Change the following settings in the supplied Windows® driver, and then try again. The best combination of the settings below will vary depending on your document. • Graphics Mode • TrueType™ mode • Use Printer TrueType™ Fonts
The printer cannot print full pages of a document. A "`MEMORY FULL`" error message occurs.	• Press the panel button to print the data remaining in the printer. • Reduce the print resolution or reduce the complexity of your document. • Expand the printer memory by adding a commercially available DIMM. See 'RAM expansion' in Chapter 4.

Problem	Recommendation
The headers or footers appear when I view my document on the screen but do not show up when I print it.	• Most laser printers have a restricted area that cannot be printed. Usually the first two lines and the last two lines of a page cannot have print (leaving 62 printable lines). Adjust the top and bottom margins in your document to allow for this.
(For connecting using the RS-232C interface only) The printer prints the first couple of pages correctly; however, some following pages have text missing.	• This problem is usually related to serial interface settings. Your computer is not recognizing the printer input buffer's full signal. This could be caused by an incorrect serial cable (incorrectly wired or too long) or incorrect setup of your computer serial interface.

Other problems

Problem	Recommendation
The printer cannot print. "There was an error writing to LPT1: (or BRUSB) for the printer." error message displays on your PC.	• Check that the printer cable is not damaged or broken. • Make sure the correct printer is selected if you have an interface-switching device.

For printing with the Serial Interface

Problem	Recommendation
Unable to print from application software.	• If you are using a serial interface, make sure that the slide switch of the serial interface is in the correct serial position and that the interface settings have been correctly set up in the INTERFACE mode using the control panel.
(For connecting using the RS-232C interface only) The printer prints the first couple of pages correctly; however, some following pages have text missing.	• This problem is usually related to serial interface settings. Your computer is not recognizing the printer input buffer's full signal. This could be caused by an incorrect serial cable (incorrectly wired or too long) or incorrect setup of your computer serial interface.

For DOS users

Problem	Recommendation
Unable to print from application software.	• Check that the DOS application software interface settings match that of your printer: for example, if you are using a parallel printer cable, you would most likely set your DOS software printer port to LPT1. • Check if the printer has any printer alarms. • Check if the appropriate printer is selected in your application software. • If the serial interface is used, make sure that the RS-232C serial interface is selected with the slide switch. Make sure the interface settings are correctly set up in INTERFACE mode using the control panel. Make sure the serial parameters of baud rate, parity and stop bits match between your application software and the printer.

Printer HDD (Hard Disk Drive)

Problem	Recommendation
Printer does not recognize the HDD.	Make sure of the following points: • The cable is connected correctly. • The HDD is installed correctly. • The installed HDD is formatted correctly. Turn off the printer. Wait a few seconds, and then turn it on again. If this error message appears again, replace the HDD with a new one.

BR-Script 3

Problem	Recommendation
The printer cannot print.	If “IGNORE DATA” appears on the LCD message, please do the following. 1. Reset the printer. 2. Turn “ERRORPRINT” ON, and then print again. 3. If the Error is “LIMITCHECK,” add optional memory. See “Installing additional memory” in Chapter 4.
The print speed slows down.	• Add optional memory. See “Installing additional memory” in Chapter 4.
The printer cannot print EPS data.	You need the following settings to print this data. 1. Select the printer you use in the Printer folder. 2. Press the “Advanced” button on the PostScript tab. 3. Select the “Tagged binary communication protocol” in Data format.

Caution

Operation of the printer outside of the specifications shall be deemed abuse and all repairs thereafter shall be the sole liability of the end user/purchaser.

APPENDIX

Printer specifications

Printing

Print Method	Electrophotography by semiconductor laser beam scanning	
Laser	Wave length:	780 nm
	Pulse duration:	25 ns
	Output:	5 mW max.
Resolution	Windows 95/98/Me, Windows NT and Windows 2000	HQ1200 (Brother HQ1200 technology provides the best print quality while printing at full engine speed.) 600 dpi 300 dpi
	DOS	600 dpi
	Mac OS	HQ1200 (Brother HQ1200 technology provides the best print quality while printing at full engine speed.) 600 dpi 300 dpi
Print Speed	24 pages per minute	(600 or 300 dpi / A4 size)
	24 pages per minute	(600 or 300 dpi / Letter size)
	24 pages per minute	(HQ1200 / A4 & Letter size)
Warm Up	Max. 20 seconds at 23°C (68°F)	
First Print	12 seconds or less (A4/letter size using face down print delivery from cassette feeder) Restart with software command for 10 second first print	

Print Media	Toner in a single-component cartridge Life Expectancy: 11,000 single-sided pages/cartridge (A4 or letter size paper with the print density set at level 0 with about 5% coverage).
Resident Printer Fonts	• HP LaserJet, EPSON FX-850, and IBM Proprinter XL modes 66 scalable fonts and 12 bitmapped fonts • BR-Script Level 3 mode 66 scalable fonts (PostScript Level3 language emulation) For more information about resident fonts, see “RESIDENT FONTS” in Appendix.

Note

When the printer does not receive data for a certain period of time (time-out), it enters sleep mode. Sleep mode acts as though the printer was turned off. The default time-out is 30 minutes. You can change the default setting by using the Control panel.

Functions

CPU	Toshiba TMPR 4955 200 MHz
Emulation	Automatic emulation selection • HP LaserJet 5 (PLC 6) (Hewlett-Packard laser printer-LaserJet) • BR-Script Level 3 (PostScript Level3 language emulation) • HP-GL • EPSON FX-850 • IBM Proprinter XL
Interface	Automatic interface selection among bi-directional parallel, RS-232C serial and Universal Serial Bus.
RAM	16 Mbyte (expandable to 272 Mbytes with DIMMs) The standard memory installed varies depending on the printer model and country.
Control Panel	7 switches, 1 LED, and 2 lines by 16-column liquid crystal display with back light
Diagnostics	Self-diagnostic program

Options

Paper Handling	Lower tray unit (LT-4000) Maximum 500 sheets x 3 trays
	Duplex unit for duplex printing (DX-4000)
	Mailbox unit for output source (MX-4000 series)
Stabilizer	Stabilizer for safe installation of the printer with options fitted (SB-4000)
Network connectivity	Ethernet 10/100BaseTX Print server (NC-4100h)
Storage Device	Hard Disk Drive
	CompactFlash Card

Electrical and mechanical

Power Source	U.S.A. and Canada:	AC 110 to 120 V, 50/60 Hz
	Europe and Australia:	AC 220 to 240 V, 50/60 Hz
Power Consumption	Printing:	600 W or less
	Stand-by:	80 W or less
	Stand-by in sleep mode:	16 W or less (default activation time : 30 minutes)
	OFF :	2 W or less*
	* The only way to achieve 0W power consumption is to unplug the power cord from the AC outlet.	
Noise	Printing:	55 dB A or less
	Stand-by:	40 dB A or less
Noise per ISO 9296	Printing:	Lwad = about 67dB (A) *
	Stand-by:	Lwad = about 48dB (A)
	* You might want to install printers with a sound power level of Lwad 63 dB (A) or more in a separate room or cubicle.	
Temperature	Operating:	10 to 32.5°C (50°F to 90.5°F)
	Storage:	0 to 35°C (38°F to 95°F).
Humidity	Operating:	20 to 80% (without condensation)
	Storage:	10 to 80% (without condensation)
Dimensions	471 (W) x 480 (H) x 422 (D) mm (18.5 x 18.9 x 16.6 inches)	
Weight	Approx. 21 kg (46.3 lbs.)	

Paper specifications

The Paper trays and LCD panel descriptions in this manual are named as shown below.

Upper paper tray	Tray 1
Multi-purpose tray	MP tray
Optional Lower tray	Tray 2/3/4
Optional Duplex unit for Duplex printing	DX
Optional Mailbox unit	MX

Jump to the page for each printing method by clicking the check mark in the following table.

Media type	***Tray 1*** 60 – 105 g/m² (16 – 28 lbs.)	***MP tray*** 60 – 200 g/m² (16 – 53 lbs.)	***Tray 2/3/4*** 60 – 105 g/m² (16 – 28 lbs.)	***DX*** 60 – 105 g/m² (16 – 28 lbs.)	***MX*** 60 – 105 g/m² (16 – 28 lbs.)	***Select the Media type from the printer driver***
Plain paper	✔	✔	✔	✔	✔	Plain paper
Recycled paper	✔	✔	✔	✔	✔	Plain paper
Bond paper	✔	✔	✔	✔	✔	Bond paper
Thick paper		✔				Thick paper or Thicker paper
Transparency		✔ Only A4 or Letter size				Transparency
Label		✔ Only A4 or Letter size				Plain paper
Envelope		✔				Envelope
Card stock		✔				Thick paper or Thicker paper

Note

When you print on thick paper, labels and card stock, we recommend that you select the media type setting in the printer driver according to the paper weight as in the above table.

	Tray 1	***MP tray***	***Tray 2/3/4***
Paper size	A4, Letter, Legal, B5(JIS), B5(ISO), Executive, A5, A6, B6	A4, Letter, Legal, B5(JIS), B5(ISO), Executive, A5, A6, B6 COM-10, Monarch, C5, DL Width: 73.5 to 216 mm (2.89 to 8.5 in.) Length: 116 to 356 mm (4.57 to 14.0 in.)	A4, Letter, Legal, B5(JIS), B5(ISO), Executive, A5
Capacity	500 sheets (80 g/m^2 or 20 lbs.)	100 sheets (80 g/m^2 or 20 lbs.) transparencies : 10 sheets envelopes : 10 sheets label stock : 10 sheets	500 sheets (80 g/m^2 or 20 lbs.)

	DX	***MX***
Paper size	A4, Letter, Legal, B5(JIS), Executive	A4, Letter, B5(JIS), B5(ISO), Executive
Capacity		100 sheets per bin (80 g/m^2 or 20 lbs.)

We recommend the following print methods (output tray) for each paper media type:

Jump to the page for each printing method by clicking the check mark in the following table.

Media type	*Face down*	*Face up*	*Notes*
Plain paper	✔	✔	60 g/m^2 to 105 g/m^2 (16 to 28 lbs.)
Recycled paper	✔	✔	
Bond paper	✔	✔	
Thick paper	✔	✔	105 g/m^2 to 150 g/m^2 (28 to 40 lbs.)
Thicker paper	✔	✔	150 g/m^2 to 200 g/m^2 (40 to 53 lbs.)
Transparency	✔	✔	OHP film
Label		✔	
Envelope		✔	
Card stock		✔	

You can select the priority of the paper source in the PAPER mode by using the control panel.
For more information about the setting, see Chapter 3.

Note

- If you print on thick paper that weighs more than 150 g/m^2 (40 lbs.), use face up printing.
- We recommend that you use face up printing when you print on transparencies.
- If a paper jam occurs when using A6 size paper, remove the jammed paper, turn over the stack of the paper in the paper cassette, and print it again. To remove the jammed paper, see Chapter 6.
- If the paper is misfeeding or multiple pages frequently feed at once when you print on small-sized or thick paper, change the paper thickness switches in the paper cassette. For more information, see page 1-21.

Media types in the driver settings

You can select the following media types in the driver settings. Please see, "Features in the printer driver" in Chapter 2.

- Plain paper : 60 g/m^2 to 105 g/m^2 (16lb to 28lb)
- Thick paper : 105 g/m^2 to 150 g/m^2 (28lb to 40lb)
- Thicker paper : 150 g/m^2 to 200 g/m^2 (40lb to 53lb)
- Bond paper : Rough paper - 60 g/m^2 to 200 g/m^2 (16lb to 53lb)
- Transparency : OHP film
- Envelope

Recommended paper

	Europe	***USA***
Plain paper	Xerox Premier 80 g/m^2	Xerox 4200DP 20 lb
Recycled paper	Steinbis Recycling Copy 80 g/m^2	
Transparency	3M CG3300	3M CG 3300
Label	Avery laser label L7163	Avery laser label #5160

- Before you purchase large quantities of paper, please test print a small quantity to ensure that the paper is suitable.
- Use paper designed for plain paper copying.
- Use paper that is 75 to 90 g/m^2 (20 to 24 lb).
- Use neutral paper; avoid acidic or alkaline paper.
- Use Long grain paper.
- Use paper with a moisture content of approximately 5%.
- This printer can use recycled paper that meets the DIN 19309 specification.

Fonts

65 scalable and 12 bitmapped fonts

This printer has the following scalable fonts and bitmapped fonts. The fonts that can be used vary according to the current emulation mode.

❖ HP LaserJet, EPSON FX-850, and IBM Proprinter XL Modes

♦ Scalable Fonts:

Intellifont Compatible Fonts:

- Alaska, Extrabold
- Antique Oakland, Oblique, Bold
- Brougham, Oblique, Bold, BoldOblique
- Cleveland Condensed
- Connecticut
- Guatemala Antique, Italic, Bold, BoldItalic
- Letter Gothic, Oblique, Bold
- Maryland
- Oklahoma, Oblique, Bold, BoldOblique
- PC Brussels Light, LightItalic, Demi, DemiItalic
- PC Tennessee Roman, Italic, Bold, BoldItalic
- Utah, Oblique, Bold, BoldOblique
- Utah Condensed, Oblique, Bold, BoldOblique

Microsoft® Windows® 95/98/Me, Windows 2000, Windows NT TrueType Compatible Fonts:

- BR Symbol
- Helsinki, Oblique, Bold, BoldOblique
- Tennessee Roman, Italic, Bold, BoldItalic
- Dingbats

Type 1 Font Compatible Fonts:

- Atlanta Book, BookOblique, Demi, DemiOblique
- Calgary MediumItalic
- Copenhagen Roman, Italic, Bold, BoldItalic
- Portugal Roman, Italic, Bold, BoldItalic

Brother Original Fonts:

- Bermuda Script
- Germany
- San Diego
- US Roman

Bitmapped Fonts (Portrait and Landscape):

- LetterGothic16.66 Medium, Italic, Bold, BoldItalic
- OCR-A
- OCR-B

65 Scalable Fonts

❖ BR-Script 3 Mode

Scalable Fonts:

- Atlanta Book, BookOblique, Demi, DemiOblique
- Alaska, Extrabold
- Antique Oakland, Oblique, Bold
- Bermuda Script
- BR Dingbats
- BR Symbol
- Brougham, Oblique, Bold, BoldOblique
- Brussels Light, LightItalic, Demi, DemiItalic
- Calgary MediumItalic
- Cleveland Condensed
- Connecticut
- Copenhagen Roman, Italic, Bold, BoldItalic
- Germany
- Guatemala Antique, Italic, Bold, BoldItalic
- Helsinki, Oblique, Bold, BoldOblique
- Helsinki Narrow, Oblique, Bold, BoldOblique
- Letter Gothic, Oblique, Bold
- Maryland
- Oklahoma, Oblique, Bold, Bold Oblique
- Portugal Roman, Italic, Bold, BoldItalic
- San Diego
- Tennessee Roman, Italic, Bold, BoldItalic
- US Roman
- Utah, Oblique, Bold, BoldOblique
- Utah Condensed, Oblique, Bold, BoldOblique

SYMBOL/CHARACTER SETS

You can select the symbol and character sets in the PRINT MENU, EMULATIONS Settings in the HP LaserJet, EPSON FX-850, and IBM Proprinter XL emulation modes. See EMULATIONS in Chapter 4.

When you have selected the HP-GL emulation mode, you can select the standard or alternate character set in the PRINT MENU, HP-GL Settings. See PRINT MENU in Chapter 4.

OCR Symbol Sets

When the OCR-A or OCR-B font is selected, the corresponding symbol set is always used.

OCR-A

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HP LaserJet Mode

Roman 8 (8U)

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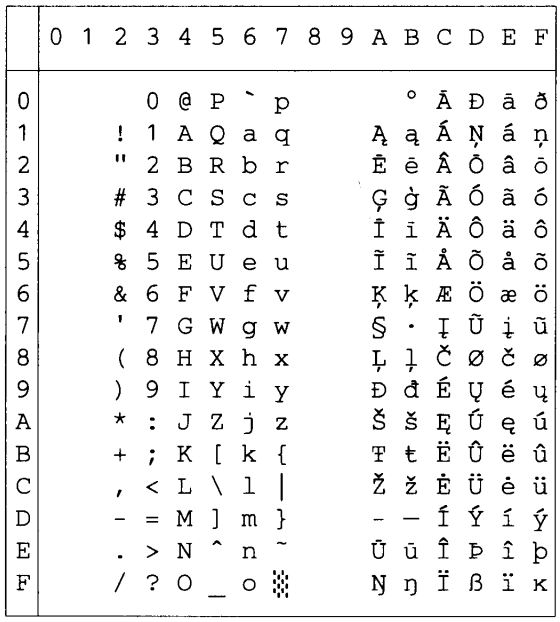
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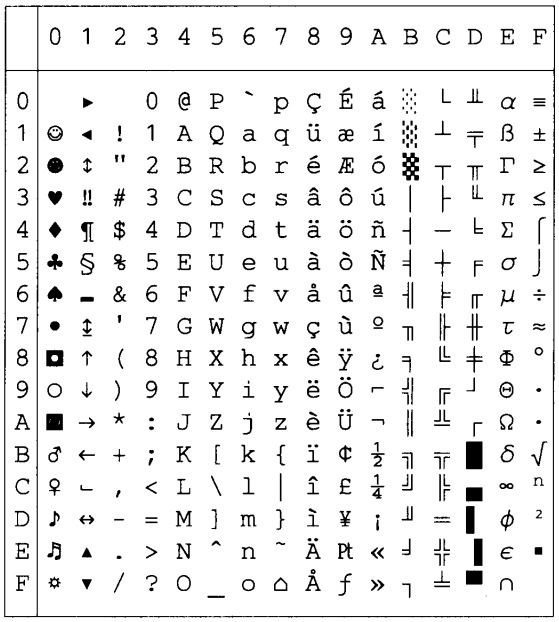
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ISO Latin6 (6N)



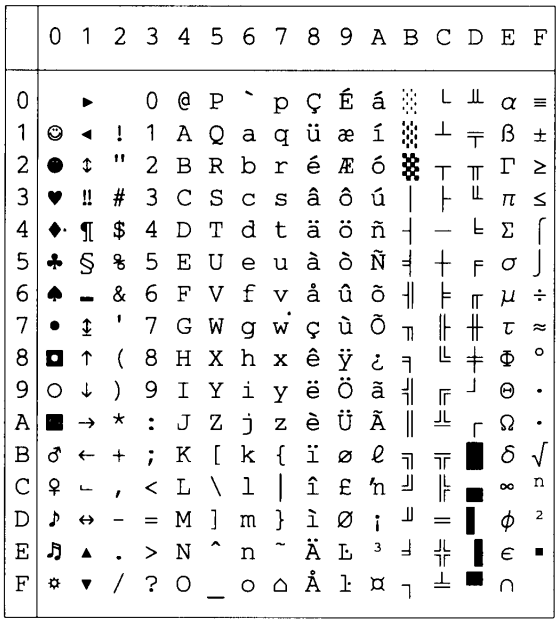
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PC-8 (10U)



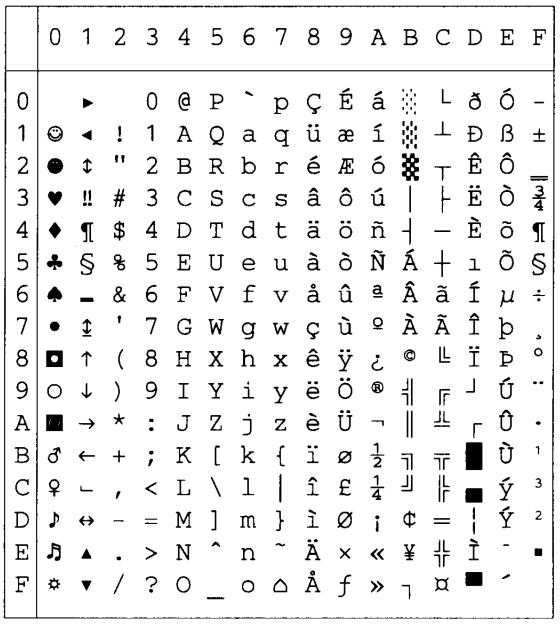
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PC-8 D/N (11U)



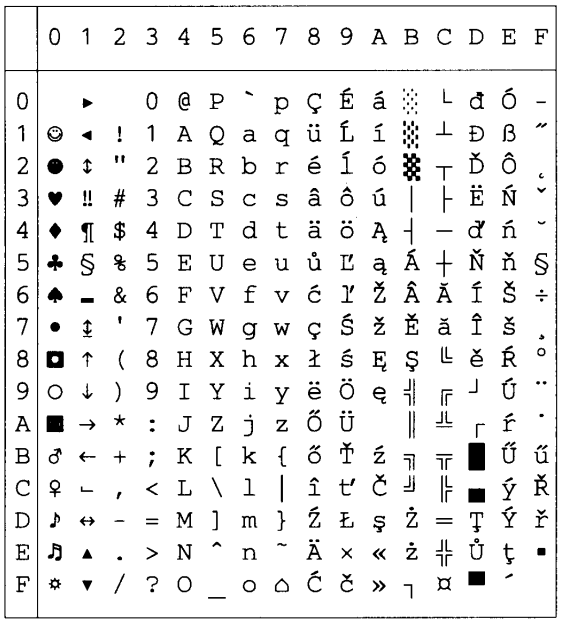
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PC-850 (12U)

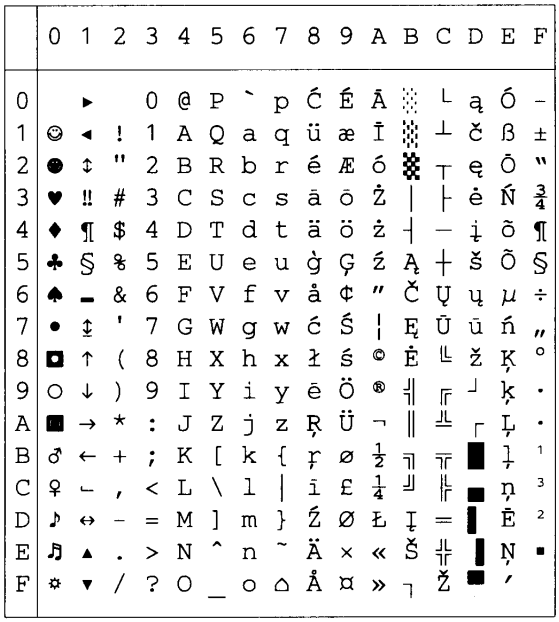


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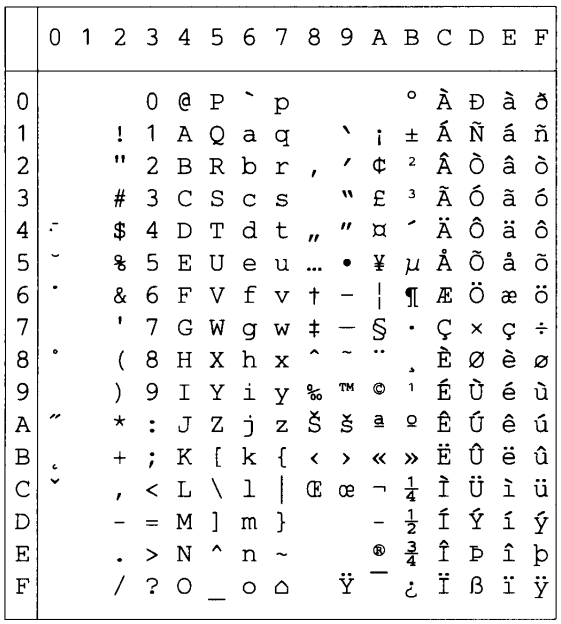
PC-852 (17U)



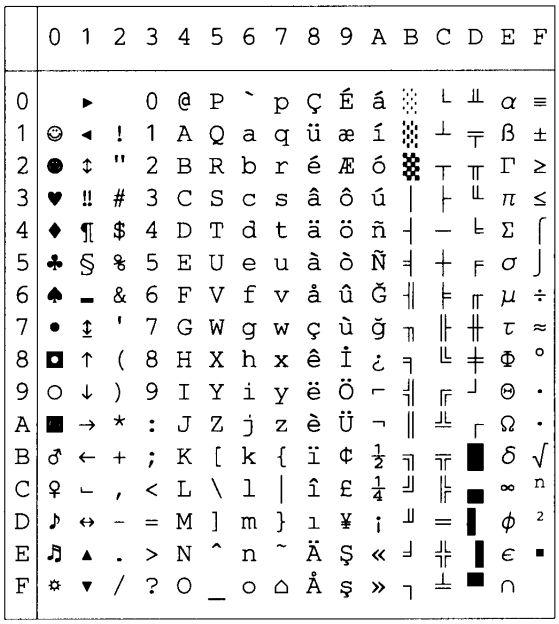
PC-775 (26U)



PC-1004 (9J)



PC-8 Turkish (9T)



Windows Latin1 (19U)

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Windows Latin2 (9E)

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Windows Latin5 (5T)

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Ventura Math (6M)

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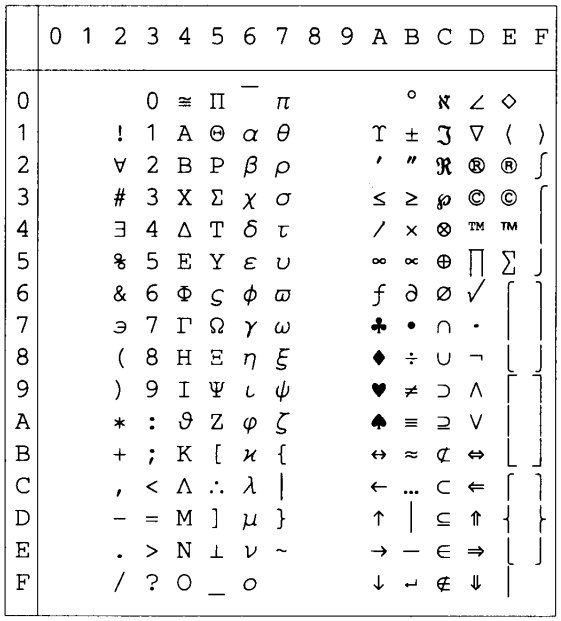
Ventura Intl (13J)

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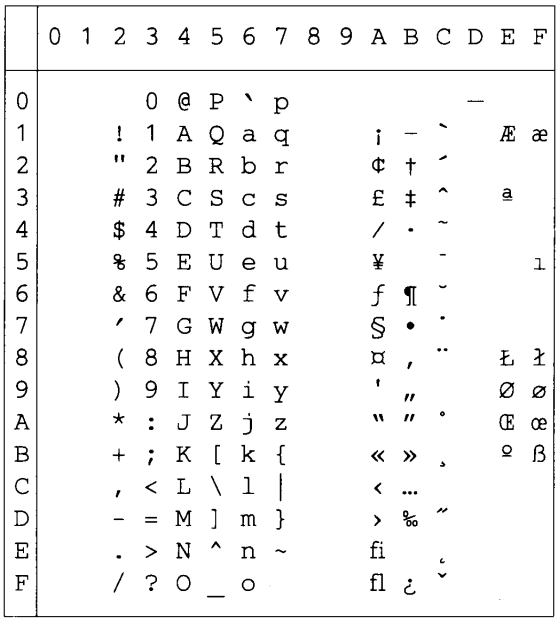
Ventura US (14J)

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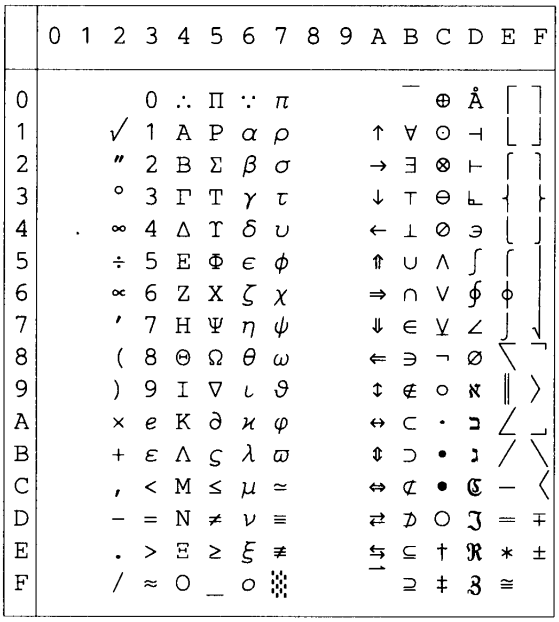
PS Math (5M)



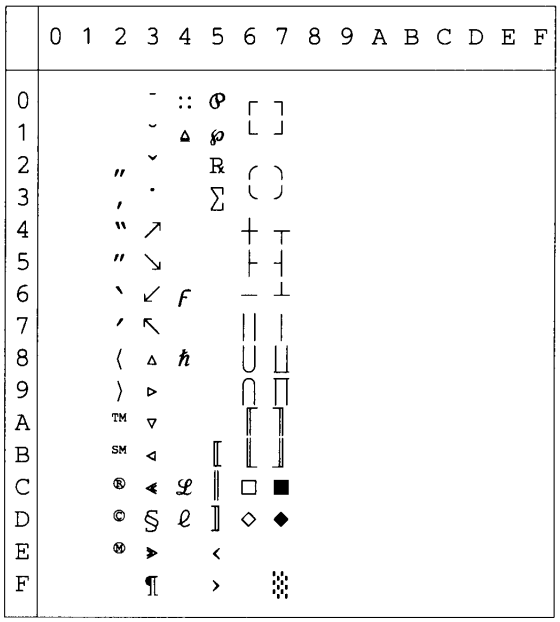
PS Text (10J)



Math-8 (8M)



Pi Font(15U)



MS Publishing (6J)

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Desktop (7J)

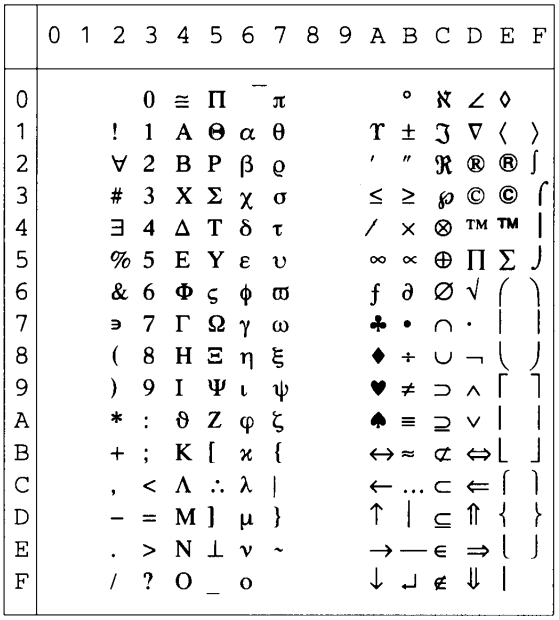
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MC Text (12J)

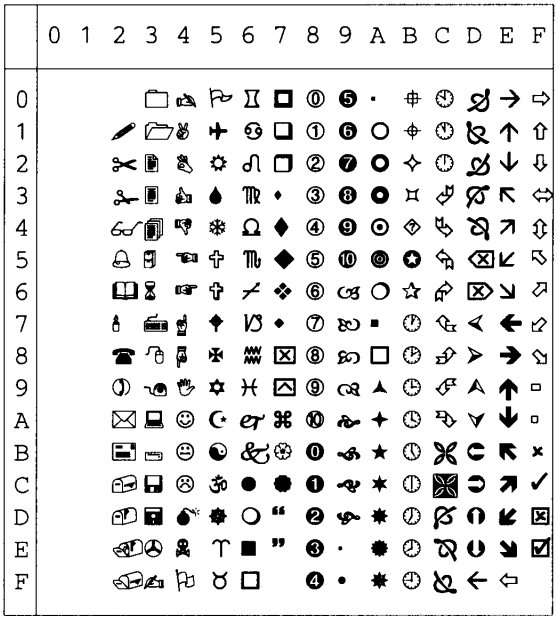
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C			,	<	L	\	l	|	å	ú	¨	º	Ã	‹	Ï	¸
D			-	=	M	]	m	}	ç	ù	≠	Ω	Õ	›	Ì	˝
E			.	>	N	^	n	~	é	û	Æ	æ	Œ	fi	Ó	¸
F			/	?	O	_	o		è	ü	Ø	ø	œ	fl	Ô	ˇ

Symbol (19M)
Windings (579L)

Symbol (19M)



Windings (579L)



The following table shows characters available only in the corresponding character set. The numbers at the top of the table are hexadecimal code values with which characters are to be replaced in the Roman 8 characters set. For other characters, see the Roman 8 character set.

SYMBOL SET		23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
ISO2 IRV	<ESC>(2U	#	¤	@	[	\	]	^	`	{	|	}	¯
ISO4 UK	<ESC>(1E	£	$	@	[	\	]	^	`	{	|	}	¯
ISO6 ASCII	<ESC>(0U	#	$	@	[	\	]	^	`	{	|	}	~
ISO10 Swedish	<ESC>(3S	#	¤	@	Ä	Ö	Å	^	`	ä	ö	å	¯
ISO11 Swedish	<ESC>(0S	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
ISO14 JIS ASCII	<ESC>(0K	#	$	@	[	¥	]	^	`	{	|	}	
ISO15 Italian	<ESC>(0I	£	$	§	º	ç	é	^	ù	à	ò	è	ì
ISO16 Portuguese	<ESC>(4S	#	$	§	Ã	Ç	Õ	^	`	ã	ç	õ	º
ISO17 Spanish	<ESC>(2S	£	$	§	¡	Ñ	¿	^	`	º	ñ	ç	~
ISO21 German	<ESC>(1G	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
ISO25 French	<ESC>(0F	£	$	à	º	ç	§	^	`	é	ù	è	¨
ISO57 Chinese	<ESC>(2K	#	¥	@	[	\	]	^	`	{	|	}	¯
ISO60 Norwegian1	<ESC>(0D	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	
ISO61 Norwegian2	<ESC>(1D	§	$	@	Æ	Ø	Å	^	`	æ	ø	å	¨
ISO69 French	<ESC>(1F	£	$	à	º	ç	§	^	µ	é	ù	è	~
ISO84 Portuguese	<ESC>(5S	#	$	´	Ã	Ç	Õ	^	`	ã	ç	õ	¨
ISO85 Spanish	<ESC>(6S	#	$	·	¡	Ñ	Ç	¿	´	´	ñ	ç	
HP German	<ESC>(0G	£	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
HP Spanish	<ESC>(1S	#	$	@	¡	Ñ	¿	º	`	{	ñ	}	~

EPSON Mode

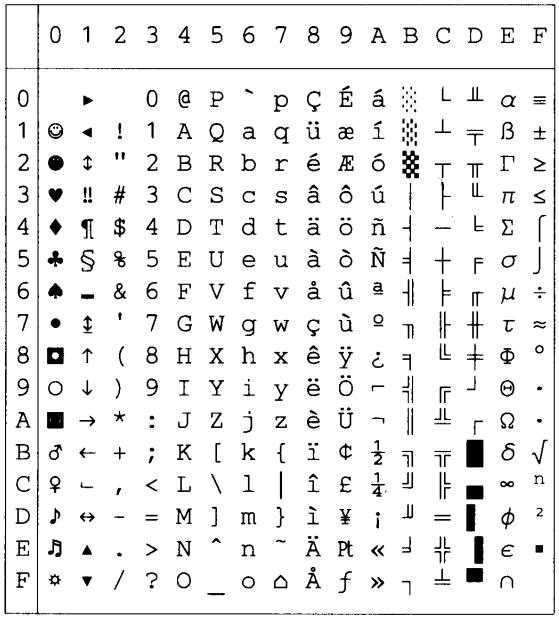
US ASCII

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p				0	@	P	`	p
1			!	1	A	Q	a	q			!	1	A	Q	a	q
2			"	2	B	R	b	r			"	2	B	R	b	r
3			#	3	C	S	c	s			#	3	C	S	c	s
4			$	4	D	T	d	t			$	4	D	T	d	t
5			%	5	E	U	e	u			%	5	E	U	e	u
6			&	6	F	V	f	v			&	6	F	V	f	v
7			'	7	G	W	g	w			'	7	G	W	g	w
8			(	8	H	X	h	x			(	8	H	X	h	x
9			)	9	I	Y	i	y			)	9	I	Y	i	y
A			*	:	J	Z	j	z			*	:	J	Z	j	z
B			+	;	K	[	k	{			+	;	K	[	k	{
C			,	<	L	\	l	|			,	<	L	\	l	|
D			-	=	M	]	m	}			-	=	M	]	m	}
E			.	>	N	^	n	~			.	>	N	^	n	~
F			/	?	O	_	o				/	?	O	_	o	

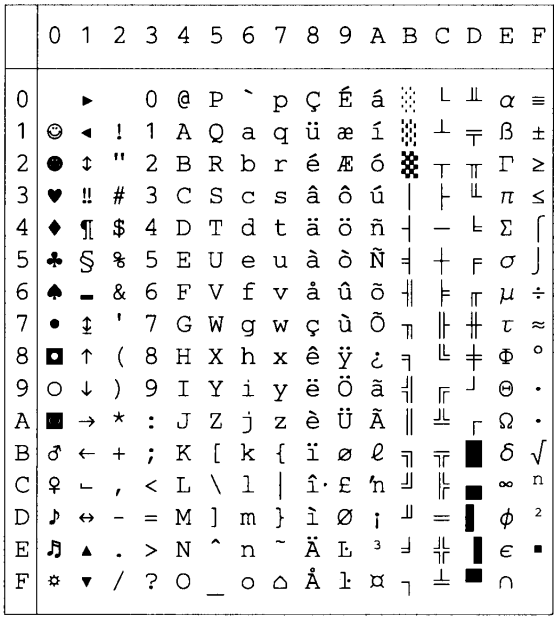
The following table shows characters available only in the corresponding character set. The numbers at the top of the table are hexadecimal code values with which characters are to be replaced in the US ASCII character set. For other characters, see the US ASCII character set.

CHARACTER SET	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
German	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
UK ASCII I	£	$	@	[	\	]	^	`	{	|	}	~
French I	#	$	à	°	ç	§	^	`	é	ù	è	¨
Danish I	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~
Italy	#	$	@	°	\	é	^	ù	à	ò	è	ì
Spanish	₧	$	@	¡	Ñ	¿	^	`	¨	ñ	}	~
Swedish	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Japanese	#	$	@	[	¥	]	^	`	{	|	}	~
Norwegian	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Danish II	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
UK ASCII II	#	£	@	[	\	]	^	`	{	|	}	~
French II	#	â	à	î	ç	ê	û	ô	é	ú	è	ï
Dutch	#	$	@	[	]	ƒ	^	`	é	ij	è	¨
South African	#	ê	É	Ê	Ö	è	Ü	é	ë	ö	ô	ü

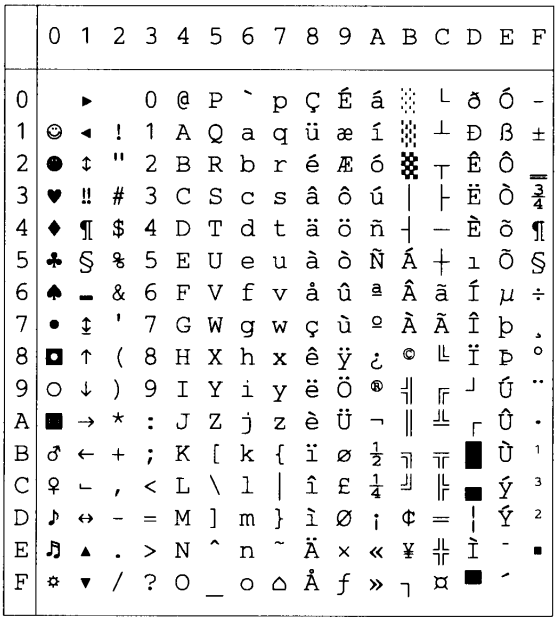
PC-8



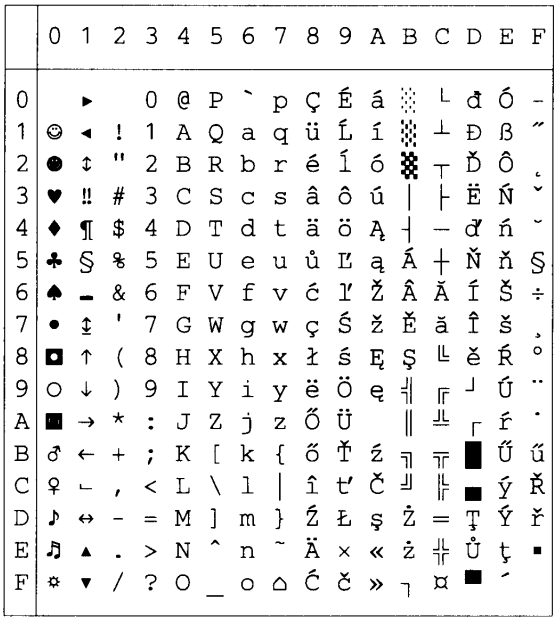
PC-8 D/N



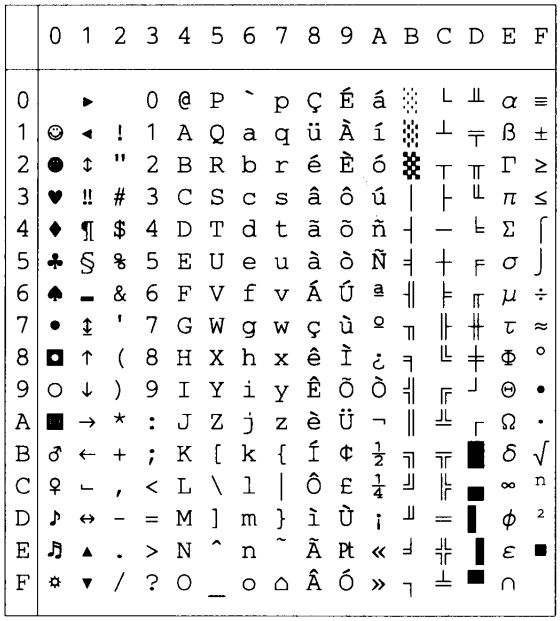
PC-850



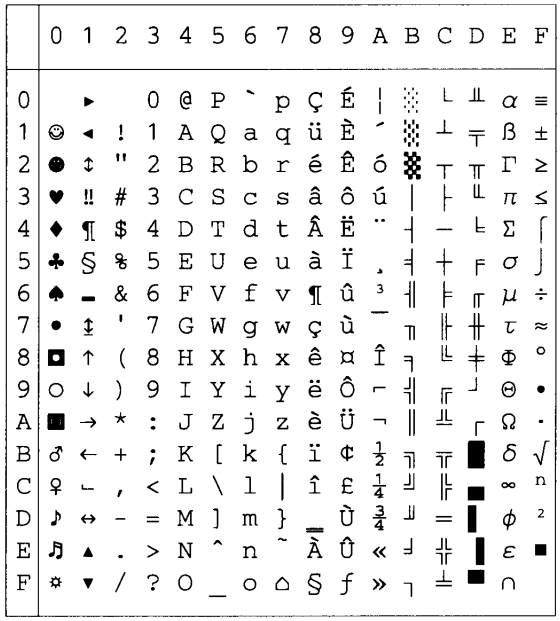
PC-852



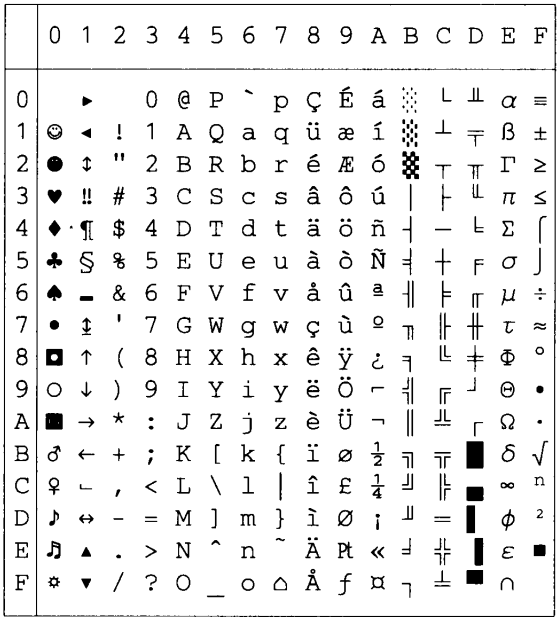
PC-860



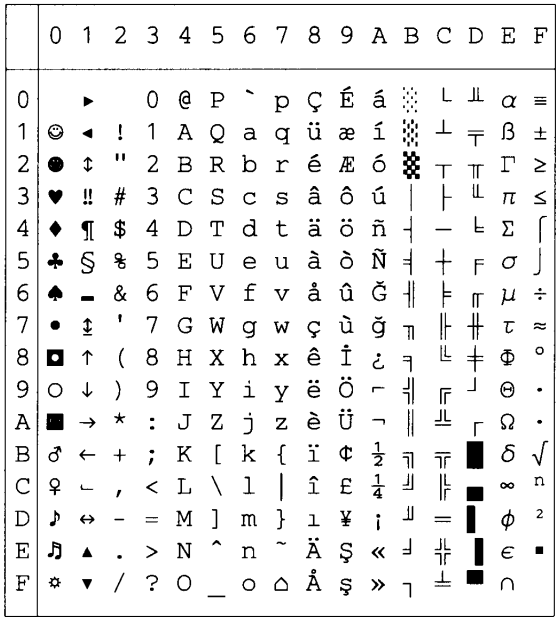
PC-863



PC-865

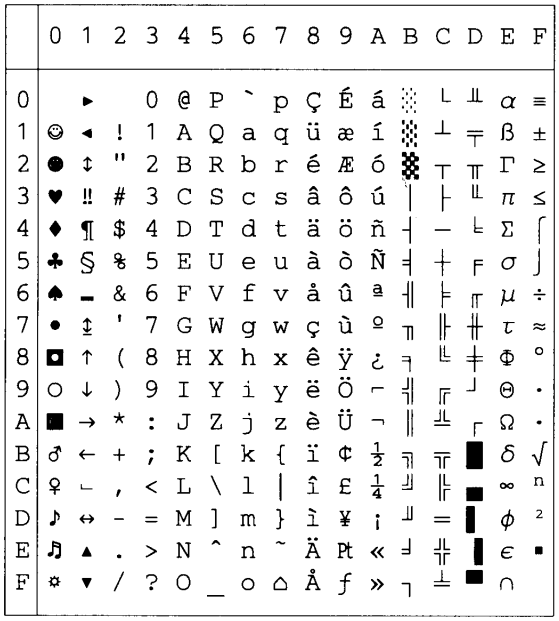


PC-8 Turkish

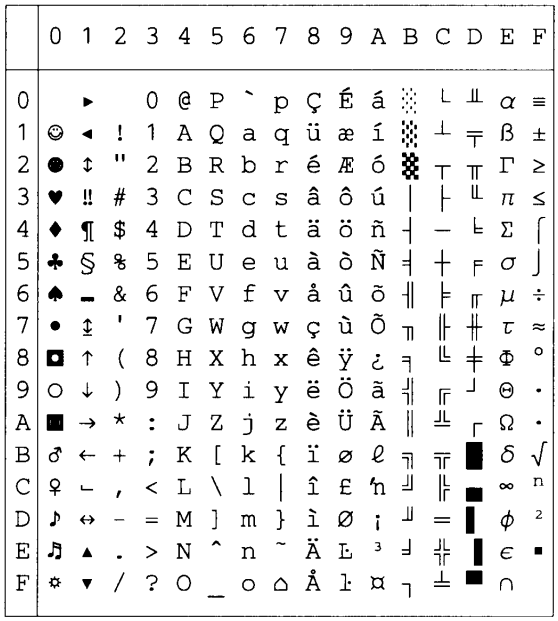


IBM Mode

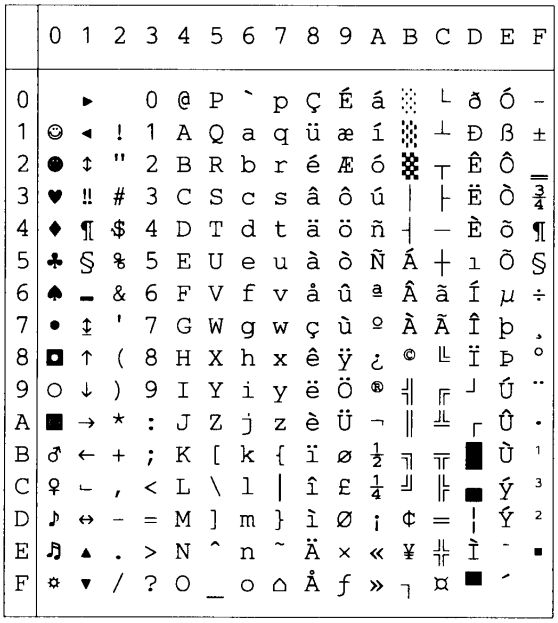
PC-8



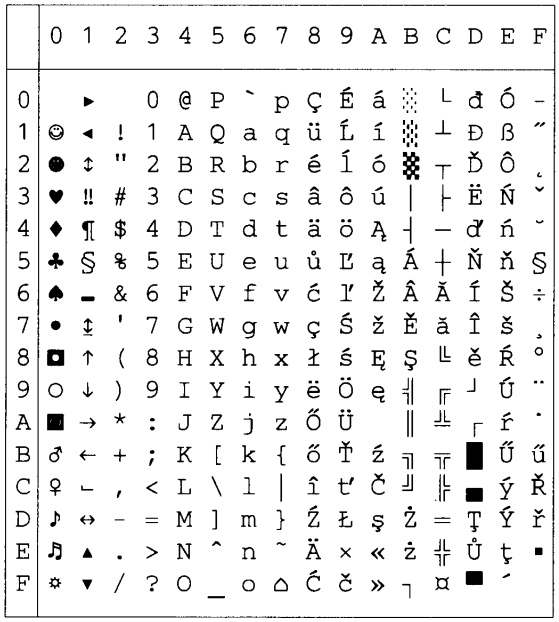
PC-8 D/N



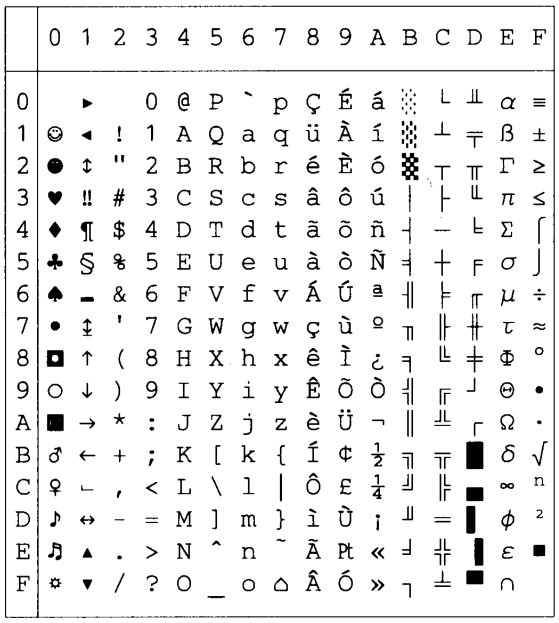
PC-850



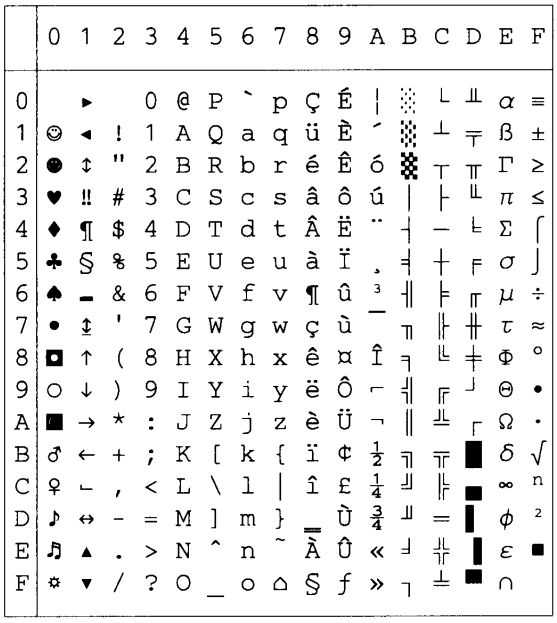
PC-852



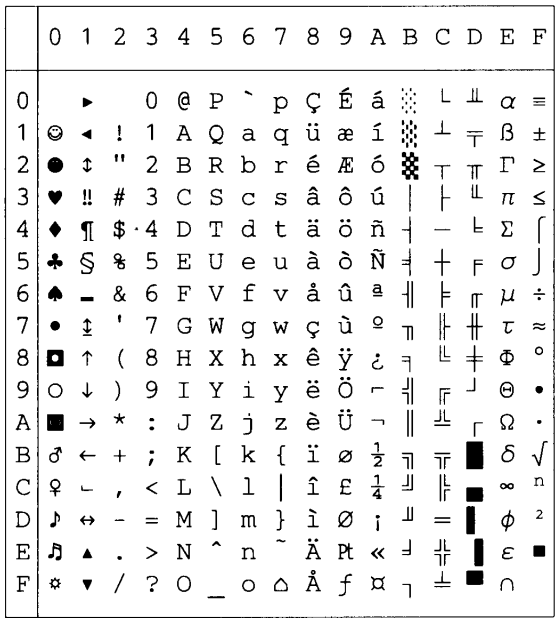
PC-860



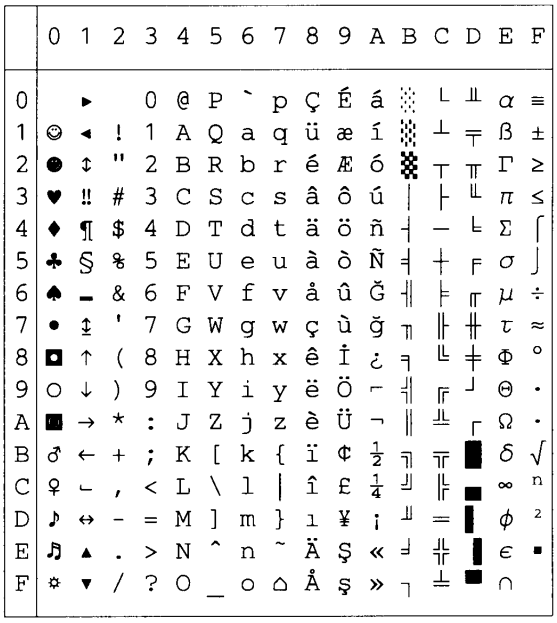
PC-863



PC-865



PC-8 Turkish



HP-GL Mode

ANSI ASCII(0)

	0	1	2	3	4	5	6	7
0				0	@	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			#	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	[	k	{
C			,	<	L	\	l	|
D			-	=	M	]	m	}
E			.	>	N	^	n	~
F			/	?	O	_	o	

9825 CHR. SET(1)

	0	1	2	3	4	5	6	7
0				0	@	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			#	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	[	k	π
C			,	<	L	√	l	⊢
D			-	=	M	]	m	→
E			.	>	N	↑	n	~
F			/	?	O	_	o	

FRENCH/GERMAN(2)

	0	1	2	3	4	5	6	7
0				0	@	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			£	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	[	k	¨
C			,	<	L	ç	l	°
D			-	=	M	]	m	¨
E			.	>	N	^	n	'
F			/	?	O	_	o	

SCANDINAVIAN(3)

	0	1	2	3	4	5	6	7
0				0	@	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			£	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	Ø	k	¨
C			,	<	L	Æ	l	°
D			-	=	M	ø	m	¨
E			.	>	N	æ	n	'
F			/	?	O	_	o	

SPANISH/LATIN(4)

	0	1	2	3	4	5	6	7
0				0	@	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			¿	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			´	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	[	k	~
C			,	<	L	i	l	~
D			-	=	M	]	m	~
E			.	>	N	^	n	~
F			/	?	O	_	o	

JIS ASCII(6)

	0	1	2	3	4	5	6	7
0				0	@	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			#	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	[	k	{
C			,	<	L	¥	l	|
D			-	=	M	]	m	}
E			.	>	N	^	n	~
F			/	?	O	_	o	

ROMAN8 EXT.(7)

	0	1	2	3	4	5	6	7
0				¯	â	Å	Á	Þ
1			À		ê	î	Ã	þ
2			Â		ô	Ø	ã	
3			È	˚	û	Æ	Ð	
4			Ê	Ç	á	å	ð	
5			Ë	ç	é	í	Í	
6			Î	Ñ	ó	ø	Ì	-
7			Ï	ñ	ú	æ	Ó	¼
8			´	¡	à	Ä	Ò	½
9			`	¿	è	ì	Õ	ª
A			^	¤	ò	Ö	ð	º
B			¨	£	ù	Ü	Š	«
C			~	¥	ä	É	š	□
D			Ù	§	ë	ï	Ú	»
E			Û	ƒ	ö	ß	Ÿ	±
F			£	¢	ü	Ô	ÿ	

ISO IRV(9)

	0	1	2	3	4	5	6	7
0				0	@	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			#	3	C	S	c	s
4			¤	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	[	k	{
C			,	<	L	\	l	|
D			-	=	M	]	m	}
E			.	>	N	^	n	¯
F			/	?	O	_	o	

ISO FRENCH(34)

	0	1	2	3	4	5	6	7
0				0	à	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			£	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	°	k	é
C			,	<	L	ç	l	ù
D			-	=	M	§	m	è
E			.	>	N	^	n	¨
F			/	?	O	_	o	

ISO U.K.(35)

	0	1	2	3	4	5	6	7
0				0	@	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			£	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	[	k	{
C			,	<	L	\	l	|
D			-	=	M	]	m	}
E			.	>	N	^	n	¯
F			/	?	O	_	o	

ISO ITALIAN(36)

	0	1	2	3	4	5	6	7
0				0	§	P	ù	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			£	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	°	k	à
C			,	<	L	ç	l	ò
D			-	=	M	é	m	è
E			.	>	N	^	n	ì
F			/	?	O	_	o	

ISO SPANISH(37)

	0	1	2	3	4	5	6	7
0				0	§	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			£	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	i	k	°
C			,	<	L	Ñ	l	ñ
D			-	=	M	¿	m	ç
E			.	>	N	^	n	~
F			/	?	O	_	o	

ISO SWEDISH(30)

	0	1	2	3	4	5	6	7
0				0	@	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			#	3	C	S	c	s
4			¤	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	Ä	k	ä
C			,	<	L	Ö	l	ö
D			-	=	M	Å	m	å
E			.	>	N	^	n	~
F			/	?	O	_	o	

ISO SWEDISH: N(31)

	0	1	2	3	4	5	6	7
0				0	É	P	é	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			#	3	C	S	c	s
4			¤	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	Ä	k	ä
C			,	<	L	Ö	l	ö
D			-	=	M	Å	m	å
E			.	>	N	Ü	n	ü
F			/	?	O	_	o	

ISO NORWAY 1(32)

	0	1	2	3	4	5	6	7
0				0	@	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			#	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	Æ	k	æ
C			,	<	L	Ø	l	ø
D			-	=	M	Å	m	å
E			.	>	N	^	n	~
F			/	?	O	_	o	

ISO GERMAN(33)

	0	1	2	3	4	5	6	7
0				0	§	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			#	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	Ä	k	ä
C			,	<	L	Ö	l	ö
D			-	=	M	Ü	m	ü
E			.	>	N	^	n	ß
F			/	?	O	_	o	

ISO PORTUGUESE (38)

	0	1	2	3	4	5	6	7
0				0	§	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			#	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	Ã	k	ã
C			,	<	L	Ç	l	ç
D			-	=	M	Õ	m	õ
E			.	>	N	^	n	°
F			/	?	O	_	o	

ISO NORWAY 2 (39)

	0	1	2	3	4	5	6	7
0				0	@	P	`	p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3			§	3	C	S	c	s
4			$	4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K	Æ	k	æ
C			,	<	L	Ø	l	ø
D			-	=	M	Å	m	å
E			.	>	N	^	n	|
F			/	?	O	_	o	

♦ *Symbol Sets Supported by the Printer's Intellifont Compatible Typefaces*

PCL Symbol Set		Typeface						
Set ID	Symbol Set	Alaska	Antique Oakland	Brougham	Cleveland Cond.	Connect-icut	Guatemala Antique	Letter Gothic
8U	Roman-8	•	•	•	•	•	•	•
0N	ISO 8859-1 Latin1	•	•	•	•	•	•	•
2N	ISO 8859-2 Latin2	•	•	•	•	•	•	•
5N	ISO 8859-9 Latin5	•	•	•	•	•	•	•
6N	ISO 8859-10 Latin6	•	•	•	•	•	•	•
10U	PC-8	•	•	•	•	•	•	•
11U	PC-8 D/N	•	•	•	•	•	•	•
12U	PC-850	•	•	•	•	•	•	•
17U	PC-852	•	•	•	•	•	•	•
26U	PC-775	•	•	•	•	•	•	•
9T	PC-Turk	•	•	•	•	•	•	•
19U	Windows 3.1 Latin1	•	•	•	•	•	•	•
9E	Windows 3.1 Latin2	•	•	•	•	•	•	•
5T	Windows 3.1 Latin5	•	•	•	•	•	•	•
7J	DeskTop	•	•	•	•	•	•	•
9J	PC-1004 (OS/2)	•	•	•	•	•	•	•
10J	PS Text	•	•	•	•	•	•	•
13J	Ventura International	•	•	•	•	•	•	•
14J	Ventura US	•	•	•	•	•	•	•
6J	Microsoft Publishing	•	•	•	•	•	•	•
8M	Math-8	•	•	•	•	•	•	•
5M	PS Math	•	•	•	•	•	•	•
6M	Ventura Math	•	•	•	•	•	•	•
15U	PI Font	•	•	•	•	•	•	•
1U	Legal	•	•	•	•	•	•	•
1E	ISO 4: United Kingdom*	•	•	•	•	•	•	•
0U	ISO 6: ASCII*	•	•	•	•	•	•	•
2U	ISO 2: IRV*	•	•	•	•	•	•	•
0S	ISO 11: Swedish: names*	•	•	•	•	•	•	•
0I	ISO 15: Italian*	•	•	•	•	•	•	•
1S	HP Spanish*	•	•	•	•	•	•	•
2S	ISO 17: Spanish*	•	•	•	•	•	•	•
3S	ISO 10: Swedish*	•	•	•	•	•	•	•
4S	ISO 16: Portuguese*	•	•	•	•	•	•	•
5S	ISO 84: Portuguese*	•	•	•	•	•	•	•
6S	ISO 85: Spanish*	•	•	•	•	•	•	•
0G	HP German*	•	•	•	•	•	•	•
1G	ISO 21: German*	•	•	•	•	•	•	•
0D	ISO 60: Norwegian 1*	•	•	•	•	•	•	•
1D	ISO 61: Norwegian 2*	•	•	•	•	•	•	•
0F	ISO 25: French*	•	•	•	•	•	•	•
1F	ISO 69: French*	•	•	•	•	•	•	•
0K	ISO 14: JIS ASCII*	•	•	•	•	•	•	•
2K	ISO 57: Chinese*	•	•	•	•	•	•	•
9U	Windows 3.0 Latin1	•	•	•	•	•	•	•
2J	MC Text	•	•	•	•	•	•	•
19M	Symbol							
19L	Windows Baltic	•	•	•	•	•	•	•
579L	Wingdings							

*These symbol sets are variations of the Roman-8 symbol set.

PCL Symbol Set		Typeface(Continued)						
Set ID	Symbol Set	LetterGothic 16.66**	Mary-land	Oklahoma	PC Brussels	PC Tennessee	Utah	Utah Cond.
8U	Roman-8	•	•	•	•	•	•	•
0N	ISO 8859-1 Latin1	•	•	•	•	•	•	•
2N	ISO 8859-2 Latin2	•	•	•	•	•	•	•
5N	ISO 8859-9 Latin5	•	•	•	•	•	•	•
6N	ISO 8859-10 Latin6	•	•	•		•	•	•
10U	PC-8	•	•	•	•	•	•	•
11U	PC-8 D/N	•	•	•	•	•	•	•
12U	PC-850	•	•	•	•	•	•	•
17U	PC-852		•	•	•	•	•	•
26U	PC-775		•	•		•	•	•
9T	PC-Turk		•	•	•	•	•	•
19U	Windows 3.1 Latin1		•	•	•	•	•	•
9E	Windows 3.1 Latin2		•	•	•	•	•	•
5T	Windows 3.1 Latin5		•	•	•	•	•	•
7J	DeskTop		•	•	•	•	•	•
9J	PC-1004(OS/2)		•	•		•	•	•
10J	PS Text		•	•	•	•	•	•
13J	Ventura International		•	•	•	•	•	•
14J	Ventura US		•	•	•	•	•	•
6J	Microsoft Publishing		•	•	•	•	•	•
8M	Math-8					•	•	
5M	PS Math					•	•	
6M	Ventura Math					•	•	
15U	PI Font					•	•	
1U	Legal	•	•	•	•	•	•	•
1E	ISO 4: United Kingdom*	•	•	•	•	•	•	•
0U	ISO 6: ASCII*	•	•	•	•	•	•	•
2U	ISO 2: IRV*	•	•	•	•	•	•	•
0S	ISO 11: Swedish: names*	•	•	•	•	•	•	•
0I	ISO 15: Italian*	•	•	•	•	•	•	•
1S	HP Spanish*	•	•	•	•	•	•	•
2S	ISO 17: Spanish*	•	•	•	•	•	•	•
3S	ISO 10: Swedish*	•	•	•	•	•	•	•
4S	ISO 16: Portuguese*	•	•	•	•	•	•	•
5S	ISO 84: Portuguese*	•	•	•	•	•	•	•
6S	ISO 85: Spanish*	•	•	•	•	•	•	•
0G	HP German*	•	•	•	•	•	•	•
1G	ISO 21: German*	•	•	•	•	•	•	•
0D	ISO 60: Norwegian 1*	•	•	•	•	•	•	•
1D	ISO 61: Norwegian 2*	•	•	•	•	•	•	•
0F	ISO 25: French*	•	•	•	•	•	•	•
1F	ISO 69: French*	•	•	•	•	•	•	•
0K	ISO 14: JIS ASCII*	•	•	•	•	•	•	•
2K	ISO 57: Chinese*	•	•	•	•	•	•	•
9U	Windows 3.0 Latin1		•	•	•	•	•	•
12J	MC Text		•	•	•	•	•	•
19M	Symbol							
19L	Windows Baltic		•	•		•	•	•
579L	Wingdings							

*These symbol sets are variations of the Roman-8 symbol set.
**LetterGothic 16.66 is a bitmapped font.

♦ *Symbol Sets Supported by the Printer's TrueType™ and Type 1 Font Compatible, and Original Typefaces*

PCL Symbol Set		Typeface							
		Atlanta	BR	Copen-	Calgary	Helsinki	Portugal	Tennes-	W
Set ID	Symbol Set		Symbol	hagen				see	Dingbats
8U	Roman-8	•		•	•	•	•	•	
0N	ISO 8859-1 Latin1	•		•	•	•	•	•	
2N	ISO 8859-2 Latin2					•		•	
5N	ISO 8859-9 Latin5					•		•	
6N	ISO 8859-10 Latin6					•		•	
10U	PC-8	•		•	•	•	•	•	
11U	PC-8 D/N	•		•	•	•	•	•	
12U	PC-850	•		•	•	•	•	•	
17U	PC-852					•		•	
26U	PC-775					•		•	
9T	PC-Turk					•		•	
19U	Windows 3.1 Latin1	•		•	•	•	•	•	
9E	Windows 3.1 Latin2					•		•	
5T	Windows 3.1 Latin5					•		•	
7J	DeskTop	•		•	•	•	•	•	
9J	PC-1004 (OS/2)					•		•	
10J	PS Text	•		•	•	•	•	•	
13J	Ventura International	•		•	•	•	•	•	
14J	Ventura US	•		•	•	•	•	•	
6J	Microsoft Publishing	•		•	•	•	•	•	
8M	Math-8					•		•	
5M	PS Math					•		•	
6M	Ventura Math					•		•	
15U	PI Font					•		•	
1U	Legal	•		•	•	•	•	•	
1E	ISO 4: United Kingdom*	•		•	•	•	•	•	
0U	ISO 6: ASCII*	•		•	•	•	•	•	
2U	ISO 2: IRV*	•		•	•	•	•	•	
0S	ISO 11: Swedish: names*	•		•	•	•	•	•	
0I	ISO 15: Italian*	•		•	•	•	•	•	
1S	HP Spanish*	•		•	•	•	•	•	
2S	ISO 17: Spanish*	•		•	•	•	•	•	
3S	ISO 10: Swedish*	•		•	•	•	•	•	
4S	ISO 16: Portuguese*	•		•	•	•	•	•	
5S	ISO 84: Portuguese*	•		•	•	•	•	•	
6S	ISO 85: Spanish*	•		•	•	•	•	•	
0G	HP German*	•		•	•	•	•	•	
1G	ISO 21: German*	•		•	•	•	•	•	
0D	ISO 60: Norwegian 1*	•		•	•	•	•	•	
1D	ISO 61: Norwegian 2*	•		•	•	•	•	•	
0F	ISO 25: French*	•		•	•	•	•	•	
1F	ISO 69: French*	•		•	•	•	•	•	
0K	ISO 14: JIS ASCII*	•		•	•	•	•	•	
2K	ISO 57: Chinese*	•		•	•	•	•	•	
9U	Windows 3.0 Latin1	•		•	•	•	•	•	
12J	MC Text	•		•	•	•	•	•	
19M	Symbol		•						
19L	Windows Baltic					•		•	
579L	Wingdings								•

*These symbol sets are variations of the Roman-8 symbol set.

PCL Symbol Set		Typeface			
		Bermuda Script	Germany	San Diego	US Roman
Set ID	Symbol Set				
8U	Roman-8	•	•	•	•
0N	ISO 8859-1 Latin1	•	•	•	•
2N	ISO 8859-2 Latin2				
5N	ISO 8859-9 Latin5				
6N	ISO 8859-10 Latin6				
10U	PC-8	•	•	•	•
11U	PC-8 D/N	•	•	•	•
12U	PC-850	•	•	•	•
17U	PC-852				
26U	PC-775				
9T	PC-Turk				
19U	Windows 3.1 Latin1	•	•	•	•
9E	Windows 3.1 Latin2				
5T	Windows 3.1 Latin5				
7J	DeskTop	•	•	•	•
9J	PC-1004 (OS/2)				
10J	PS Text	•	•	•	•
13J	Ventura International	•	•	•	•
14J	Ventura US	•	•	•	•
6J	Microsoft Publishing	•	•	•	•
8M	Math-8				
5M	PS Math				
6M	Ventura Math				
15U	PI Font				
1U	Legal	•	•	•	•
1E	ISO 4: United Kingdom*	•	•	•	•
0U	ISO 6: ASCII*	•	•	•	•
2U	ISO 2: IRV*	•	•	•	•
0S	ISO 11: Swedish: names*	•	•	•	•
0I	ISO 15: Italian*	•	•	•	•
1S	HP Spanish*	•	•	•	•
2S	ISO 17: Spanish*	•	•	•	•
3S	ISO 10: Swedish*	•	•	•	•
4S	ISO 16: Portuguese*	•	•	•	•
5S	ISO 84: Portuguese*	•	•	•	•
6S	ISO 85: Spanish*	•	•	•	•
0G	HP German*	•	•	•	•
1G	ISO 21: German*	•	•	•	•
0D	ISO 60: Norwegian 1*	•	•	•	•
1D	ISO 61: Norwegian 2*	•	•	•	•
0F	ISO 25: French*	•	•	•	•
1F	ISO 69: French*	•	•	•	•
0K	ISO 14: JIS ASCII*	•	•	•	•
2K	ISO 57: Chinese*	•	•	•	•
9U	Windows 3.0 Latin1	•	•	•	•
12J	MC Text	•	•	•	•
19M	Symbol				
19L	Windows Baltic				
579L	Wingdings				

*These symbol sets are variations of the Roman-8 symbol set.

Quick reference of commands

CCITT G3/G4 and TIFF (original command)

One of the unique features of the PCL mode of this printer is that it supports CCITT G3/G4 type data compression and TIFF format.

Bar Code Control

The printer can print bar codes in the HP LaserJet, EPSON FX-850, and IBM Proprinter XL emulation modes.

❖ Print Bar Codes or Expanded Characters

Code ESC i
Dec 27 105
Hex 1B 69

Format: ESC i n … n \

Creates bar codes or expanded characters according to the segment of parameters “n … n”. For more information about parameters, see the following “Definition of Parameters.” This command must end with the “ \ ” code (5CH).

[Definition of Parameters]

This bar code command can have the following parameters in the parameter segment (n … n). Since parameters are effective within the single command syntax ESC i n … n \, they don’t take effect in the subsequent bar code commands. If certain parameters are not specified, they take the default settings. The last parameter must be the bar code data start (“b” or “B”) or the expanded character data start (“l” or “L”). Other parameters can be specified in any sequence. The prefix of each parameter can be a lower-case or upper-case character: for example, “t0” or “T0”, “s3” or “S3”, etc.

♦ *Bar Code Mode*

n = “t0” or “T0”	CODE 39 (default)
n = “t1” or “T1”	Interleaved 2 of 5
n = “t3” or “T3”	FIM (US-Post Net)
n = “t4” or “T4”	Post Net (US-Post Net)
n = “t5” or “T5”	EAN 8, EAN 13, or UPC A
n = “t6” or “T6”	UPC E
n = “t9” or “T9”	Codabar
n = “t12” or “T12”	Code 128 set A
n = “t13” or “T13”	Code 128 set B
n = “t14” or “T14”	Code 128 set C
n = “t130” or “T130”	ISBN (EAN)
n = “t131” or “T131”	ISBN (UPC-E)
n = “t132” or “T132”	EAN 128 set A
n = “t133” or “T133”	EAN 128 set B
n = “t134” or “T134”	EAN 128 set C

This parameter selects the bar code mode as above. When n is “t5” or “T5the bar code mode (EAN 8, EAN 13, or UPC A) varies according to the number of characters in the data.

♦ *Bar Code, Expanded Character, Line Block Drawing & Box Drawing*

n = “s0” or “S0” 3 : 1 (default)
n = “s1” or “S1” 2 : 1
n = “s3” or “S3” 2.5 : 1

This parameter selects the bar code style as above. When the EAN 8, EAN 13, UPC-A, Code 128 or EAN 128 bar code mode is selected, this bar code style parameter is ignored.

Expanded Character
“S” 0 = White
1 = Black
2 = Vertical stripes
3 = Horizontal stripes
4 = Cross hatch

eg. “S” n1 n2
n1 = Background fill pattern
n2 = Foreground fill pattern

If “S” is followed by only one parameter, the parameter is a foreground fill pattern.

Line Block Drawing & Box Drawing
“S” 1 = Black
2 = Vertical stripes
3 = Horizontal stripes
4 = Cross hatch

♦ *Bar Code*

n = “mnnn” or “Mnnn” (nnn = 0 ~ 32767)

This parameter specifies the bar code width. The unit of "nnn" is %.

♦ *Bar Code Human Readable Line On or Off*

n = “r0” or “R0” Human readable line OFF
n = “r1” or “R1” Human readable line ON

Default: Human readable line ON
(1) “T5” or “t5”
(2) “T6” or “t6”
(3) “T130” or “t130”
(4) “T131” or “t131”

Default: Human readable line OFF
All others

This parameter specifies whether or not the printer prints the human readable line below the bar code. Human readable characters are always printed with OCR-B font of 10 pitch and all the current character style enhancements are masked. Note that the default setting is subject to the bar code mode selected by “t” or “T”.

♦ *Quiet Zone*

n = “onnn” or “Onnn” (nnn = 0 ~ 32767)

Quiet Zone is the space on both sides of the bar codes. Its width can be specified using the units that are set by the “u” of “U” parameter. (For the description of “u” or “U” parameter, see the next section.) The default setting of Quiet Zone width is 1 inch.

♦ *Bar Code, Expanded Character Unit, Line Block Drawing & Box Drawing*

n = “u0” or “U0” Millimeters (default)
n = “u1” or “U1” 1/10”
n = “u2” or “U2” 1/100”
n = “u3” or “U3” 1/12”
n = “u4” or “U4” 1/120”
n = “u5” or “U5” 1/10 Millimeters
n = “u6” or “U6” 1/300”
n = “u7” or “U7” 1/720”

This parameter specifies the measurement units of X-axis offset, Y-axis offset, and bar code height.

♦ *Bar Code, Expanded Character, Line Block Drawing & Box Drawing Offset in X-axis*

n = “xnnn” or “Xnnn”

This parameter specifies the offset from the left margin in the “u”- or “U”-specified unit.

♦ *Bar Code & Expanded Character Offset in Y-axis*

n = “ynnn” or “Ynnn”

This parameter specifies the downward offset from the current print position in the “u”- or “U”-specified unit.

♦ *Bar Code, Expanded Character, Line Block Drawing & Box Drawing Height*

n = “hnnn”, “Hnnn”, “dnnn”, or “Dnnn”

(1) EAN13, EAN8, UPC-A, ISBN (EAN13, EAN8, UPC-A), ISBN (UPC-E): 22 mm
(2) UPC-E: 18 mm
(3) Others: 12 mm

Expanded characters → 2.2 mm (default)
Line Block Drawing & Box Drawing → 1 dot

This parameter specifies the height of bar codes or expanded characters as above. It can take the prefix “h”, “H”, “d”, or “D”. The height of bar codes is specified in the “u”- or “U”-specified unit. Note that the default setting of the bar code height (12 mm, 18 mm or 22 mm) is subject to the bar code mode selected by “t” or “T”.

♦ *Expanded Character Width, Line Block Drawing & Box Drawing*

n = “wnnn” or “Wnnn”

Expanded character → 1.2 mm
Line Block Drawing & Box Drawing → 1 dot

This parameter specifies the width of expanded characters as above.

♦ *Expanded Character Rotation*

n = “a0” or “A1”	Upright (default)
n = “a1” or “A1”	Rotated 90 degrees
n = “a2” or “A2”	Upside down, rotated 180 degrees
n = “a3” or “A3”	Rotated 270 degrees

♦ *Bar Code Data Start*

n = “b” or “B”

Data that follows “b” or “B” is read in as bar code data. Bar code data must end with the “ \ ” code (5CH), which also terminates this command. The acceptable bar code data is subject to the bar code mode selected by “t” or “T”.

- When CODE 39 is selected with the parameter “t0” or “T0”:

Forty three characters “0” to “9”, “A” to “Z”, “-”, “ . ”, “ (space)”, “$”, “ / ”, “+”, and “%” can be accepted as bar code data. Other characters cause data error. The number of characters for bar codes is not limited. The bar code data automatically starts and ends with an asterisk “ * ” (start character and stop character). If the received data has an asterisk “ * ” at its beginning or end, the asterisk is regarded as a start character or stop character.

- When Interleaved 2 of 5 is selected with the parameter “t1” or “T1”:

Ten numerical characters “0” to “9” can be accepted as bar code data. Other characters cause data error. The number of characters for bar codes is not limited. Since this mode of bar codes require even characters, if the bar code data has odd characters, the zero character “0” is automatically added to the end of the bar code data.

- When FIM (US-Post Net) is selected with the parameter “t3” or “T3”:

Characters “A” to “D” are valid and 1 digit of data can be printed. Uppercase and lowercase alphabet characters can be accepted.

- When Post Net (US-Post Net) is selected with the parameter “t4” or “T4”:

Characters “0” to “9” can be data and it must be terminated by a check digit. “?” can be used in place of the check digit.

- When EAN 8, EAN 13, or UPC A is selected with the parameter “t5” or “T5”:

Ten numerical characters “0” to “9” can be accepted as bar code data. The number of characters for bar codes is limited as follows.

EAN 8: Total 8 digits (7 digits + 1 check digit)
EAN 13: Total 13 digits (12 digits + 1 check digit)
UPC A: Total 12 digits (11 digits + 1 check digit)

A number of characters other than above causes data error and the bar code data is printed as normal print data. If the check digit is incorrect, the printer calculates the correct check digit automatically so that the correct bar code data will be printed. When EAN13 is selected, adding “+” and a 2-or 5-digit number after the data can create an add-on code.

- When UPC-E is selected with the parameter “t6” or “T6”:

The numerical characters “0” to “9” can be accepted as bar code data.
(1) 8 digits Standard format. The first character must be “0” and the data must be terminated by a check digit.
Total 8 digits = “0” + 6 digits + 1 check digit.
(2) 6 digits The first character and the last check digit are removed from the 8 digit data.

*1: For 8 digits, “?” can be used in place of a check digit.
*2: Adding “+” and 2- or 5-digit number after the data creates an add-on code for all 6 and 8 digit formats.

- When Codabar is selected with the parameter “t9” or “T9”:

Characters “0” to “9”, “-”, “ . ”, “$”, “/”, “+”, “ : ” can be printed. Characters “A” to “D” can be printed as a start-stop code, which can be uppercase or lowercase. If there is no start-stop code, errors occur. A check digit cannot be added and using “?” causes errors.

- When Code 128 Set A, Set B, or Set C is selected with the parameter “t12” or “T12,” “t13” or “T13,” or “t14” or “T14” respectively:

Code 128 sets A, B and C are individually selectable. Set A encodes characters Hex 00 … 5F. Set B encodes characters Hex 20 … 7F. Set C encodes numeric pairs 00 … 99. Switching is allowed between the code sets by sending %A, %B, or %C. FNC 1, 2, 3, and 4 are produced with %1, %2, %3, and %4. The SHIFT code, %S, allows temporary switching (for 1 character only) from set A to set B and vice versa. The “%” character can be encoded by sending it twice.

- When ISBN (EAN) is selected with the parameter “t130” or “T130”:

Same rules apply as for “t5” or “T5”

- When ISBN (UPC-E) is selected with the parameter “t131” or “T131”:

Same rules apply as for “t6” or “T6”

- When EAN 128 set A, set B or set C is selected with the parameter “t132” or “T132”, “t133” or “T133” or “t134” or “T134” respectively:

Same rules apply as for “t12” or “T12”, “t13” or “T13”, or “t14” or “T14."

♦ *Box Drawing*

ESC i … E (or e)

“E” or “e” is a terminator.

♦ *Line Block Drawing*

ESC i … V (or v)

“V” or “v” is a terminator.

♦ *Expanded Character Data Start*

n = “l” or “L”

Data that follows “l” or “L” is read as expanded character data (or labeling data). Expanded character data must end with the “ \ ” code (5CH), which also terminates this command.

[Example Program Listings]

```
 WIDTH "LPT1:",255

'CODE 39
LPRINT CHR$(27);"it0r1s0o0x00y00bCODE39?\";

'Interleaved 2 of 5
LPRINT CHR$(27);"it1r1s0o0x00y20b123456?\";

'FIM
LPRINT CHR$(27);"it3r1o0x00y40bA\";
```

```
'Post Net
LPRINT CHR$(27);"it4r1o0x00y60b1234567890?\";

'EAN-8
LPRINT CHR$(27);"it5r1o0x00y70b1234567?\";

'UPC-A
LPRINT CHR$(27);"it5r1o0x50y70b12345678901?\";

'EAN-13
LPRINT CHR$(27);"it5r1o0x100y70b123456789012?\";

'UPC-E
LPRINT CHR$(27);"it6r1o0x150y70b0123456?\";

'Codabar
LPRINT CHR$(27);"it9r1s0o0x00y100bA123456A\";

'Code 128 set A
LPRINT CHR$(27);"it12r1o0x00y120bCODE128A12345?\";

'Code 128 set B
LPRINT CHR$(27);"it13r1o0x00y140bCODE128B12345?\";

'Code 128 set C
LPRINT CHR$(27);"it14r1o0x00y160b";CHR$(1);CHR$(2);"?\";

'ISBN(EAN)
LPRINTCHR$(27);"it130r1o0x00y180b123456789012?+12345\";

'EAN 128 set A
LPRINT CHR$(27);"it132r1o0x00y210b1234567890?\";

LPRINT CHR$(12)
END
```

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